The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 405.—Vol. XIII.] LONDON: SATURDAY, MAY 27, 1843. [Price 6d.

VALUABLE MINE MATERIALS FOR SALE.—TO BE SOLD, BY PUBLIC AUCTION, on Tuesday, the 30th inst., at Ten o'clock a.m., at WHEAL CHIPPENDALE, near Marazion, the following valuable MINE MATERIALS, viz.:—A 60-inch CYLINDER STEAM-ENGINE, nearly new, 9-feet stroke in cylinder and 8-feet in shaft; air-pump, brass lined, with brass bucket and rods, and about eighteen tons of boiler and beiler work, and a winch and counter; a 14-inch CYLINDER STEAM-ENGINE, 4-feet stroke, without boiler, all the castings, gear, and brasses new; one STAMPING-MILL WHEEL, 7-feet on breasts, 13½-feet high, with iron axle, calculated to lift twelve heads; also one 2-feet on breast, 14-feet high, with wood axle, and calculated to lift four heads; one large capstan, with iron centre piece, shears, balance-bob; 120 fathoms of 12-inch capstan rope; sixty fathoms of 12-inch oak and Mrunel rods; forty fathoms of 9-inch Norway draw roads; large feod-off bob; two 14-inch plunger poles; two 14-inch H and doorpieces; two 14-inch stuffing-box and gland; two 12-inch windbores, nine feet long; two 12-inch working pieces; twenty-eight 9-feet 14-inch pumps; two 7-feet and two 4½ feet ditto; sixteen 9-feet 12-inch ditto; twenty 9 feet 9-inch ditto; and one 6-feet ditto; two 15-inch pole cases; one 13-inch drop clack piece; one 13-inch plunger pole, with stuffing-box and gland; a quantity of faggotted and common iron strapping plates, with bolts to match; flanch bolts and bors; staples and glands, of various sizes; round iron, bucket-rods, and joints; four 12-inch bucket brasses and pumps; large winch; two horse-whims and shaft tackles; whim chain; two 40-inch smiths' bellows; two anvils and vice; screwing tools and stock; smiths' and miners' tools; mandrill; two large screws for heaving lifts; large hand screw; slated and tiled roofs; whole, half, and quarter timber; plank, ladders, launders, wrought and cast iron, old junk, and various other articles.

For viewing the same, apply to Captain W. Blight, Marazion, or to the agents on the mine.—Marazion, May 24.

TO CAPITALISTS, SHARE-BROKERS, &c.—Messrs. ADAM MURRAY and SONS will SELL, BY AUCTION, in Lots, on Friday, the 2d of June, at Garraway's, Thirty Shares of the TINCROFT, Thirty Shares of the TAMAR, and Twenty Shares of the TRELEIGH MINES, in Cornwall; Thirty Shares of the BOLANOS, and Thirty Shares of the COLUMBIAN SILVER MINES, in America; and Fifty Shares of the CENTRAL AMERICAN LAND COMPANY.—Catalogues are ready for delivery; and for further particulars, apply to Messrs. Adam Murray and Sons, surveyors, land agents, and auctioneers, 47, Parliament-street, London.

TO RAILWAY COMPANIES, ENGINEERS, CONTRACTORS, and OTHERS.—FOR PEREMPTORY SALE, BY AUCTION, by Mr. R. E. DAVIS, at 55 Arch of the Greenwich Railway, Crutched-lane, Bermondsey, on Friday, the 9th of June, at One o'clock, unless previously disposed of by private contract, of which due notice will be given, TWO LOCOMOTIVE-ENGINES (nearly new), constructed by eminent London engineers, after the pattern of those in use on the London and Birmingham Railway, to a gauge of 4 ft. 9½ in., with 5 ft. 6 in. driving-wheels; highly finished substantial TENDERS and requisites, fit for immediate use, and must peremptorily be disposed of, to close an account with a public company.—May be viewed five days preceding the sale, or previously, by application to Mr. R. E. Davis, auctioneer, 60, Mark-lane.

FLINTSHIRE COLLIERIES.—TO BE SOLD BY AUCTION, at the Clarendon Rooms, South John-street, Liverpool, on Wednesday, the 21st day of June, at Two o'clock in the afternoon (unless previously disposed of by private contract, of which due notice will be given) in FOUR EQUAL LOTS, and subject to such conditions as shall then and there be produced, all those FOUR UNDIVIDED TWELFTH-PARTS, or SHARES, of and in all those valuable, productive, and well known COLLIERIES, called the EWLOE HALL, MARE HAY, LODGE CROFT, and NORTHOP HALL COLLIERIES, in the parishes of Hawarden and Northop, in the county of Flint; and also of and in all the powerful ENGINES and MACHINERY, RAILWAYS, VESSELS, OVERPAID ROYALTIES, COALS PURCHASED, but yet unworked, BOOK DEBTS, and other STOCK and MATERIALS thereunto belonging. These collieries, which are in full and profitable operation, are held, subject to easy royalties, under different leases, for various long terms, from Sir S. R. Glynne, Bart., Admiral Dundas, and others, in all of which many years are yet to come and unexpired, and the lands comprised in them embrace a very large extent of country.

The beds of coal range in thickness from twelve feet to one yard, are of excellent quality, and are almost without limit as to quantity. The recent produce has been after the rate of 50,000 tons per annum, or thereabouts, but a much larger quantity might easily be raised.

The situation of the collieries is admirable, having good turnpike roads, connecting them with the city of Chester and all the neighbouring towns in the principality; they also lie within an easy distance of the River Dee, and, by means of recently made and well appointed railways, are connected with excellent shipping wharfs at Connah's Quay and the Queen's Ferry, on the banks of that river, whence coals are shipped to Chester, Ireland, the Isle of Man, and along the English and Welsh coasts. At Connah's Quay Wharf vessels drawing thirteen feet of water can take in their cargoes at any state of the tide.

By a recent survey and valuation of the machinery, stock, &c., the capital alone employed in these great works amounts, exclusive of the beneficial interest in the many valuable leases under which the same are carried on, to nearly £30,000.

The present sale is ordered by the trustees of the late William Rigby, Esq., to enable them to fulfil certain trusts which now devolve upon them. The only other proprietors with the said trustees are John Rigby, Esq., of Sandon-terrace, Liverpool, and the representatives of the late William Hancock, Esq., of Hawarden, by whom the works are now carried on, under the well-known firm of Rigbys and Hancocks.

Every other information relative to the collieries may be had on application to Mr. Staley, surveyor and manager, at the Ewloe Office, Hawarden, Flintshire; and for any other particulars, apply to Mr. William Williamson, jun., solicitor, Holywell, Flintshire.

VALUABLE MINE IN FLINTSHIRE.—TO BE SOLD, BY AUCTION, by Messrs. WINSTANLEY, at the Clarendon Rooms, Liverpool, on Wednesday, the 28th day of June, at One o'clock in the afternoon (unless disposed of, in the mean time, by private treaty, of which due notice will be given), subject to such conditions as shall be then produced, all that well known LEAD MINE, called the TRELOGAN MINE, situate in the parish of Llanasa, in the county of Flint, together with the powerful ENGINES, CRUSHING-MILLS, MACHINERY, STOCK, and other MATERIALS thereto belonging. This mine is situated in a rich mineral district, and is held under different leases, for various terms (subject to easy royalties), from the Crown, Sir Wm. Stanley, Bart., and others. The mine at the engine-shaft is proved to the depth of eighty yards, by means of a day level, upwards of a mile in length, driven at a cost of at least £20,000, the whole of which has been defrayed out of the profits of the mine, and which level terminates at the western extremity, in the vein, at a depth of 140 yards from the surface. This vein is known to extend a considerable distance beyond the terminus of the day level, and that in ground hitherto unworked. In addition to the value of this property, as a lead mine, it is capable of producing monthly ten or eleven tons of black jack, or the ore of zinc, of an excellent quality, which can be raised and shipped at a very moderate cost.

This sale is determined upon in consequence of several of the shares of deceased proprietors being now in the hands of trustees and executors, who are directed to sell the same for trust purposes.

All further information relative to the mine may be had on application to Mr. J. Bowen, agent at the mine; Mr. William Jones, Mining Office, Chester; Mr. Hoglink, at the office of the *Mining Journal*, 26, Fleet-street; Mr. J. Scargill, 7, Bathurst, Threadneedle-street, London.—For other particulars, apply to Mr. Rupert Standley, solicitor, Holywell, Flintshire, to whom all parties having any claims against the Trelogan Mine Company, are requested to send the particulars of the same forthwith.

TO IRONMASTERS, MILLMEN, AND OTHERS.—TO BE SOLD, CHEAP, about THREE HUNDRED DOZEN of DRY ARR PACKINGS and WEDGES.—Apply to Mr. Jesse Wright, auctioneer, Dudley, the price, and where they may be seen.

MINING PROPERTY IN CARDIGANSHIRE.—A valuable INVESTMENT of MONEY may now be made in MINING PROPERTY in a promising district, in the above county, on terms of advantage to any party who may be inclined to treat with the present proprietors. The mining ground is upwards of 60,000 acres, unincumbered on every side by mines, now working to a profit, and some of them the richest in the United Kingdom, in other producing mines to the tune of one. The amount of these sums arise from the crown duties through the property, to kindly granted. The mines opened on the property are two, and the prospects of success there will satisfy any party on inspection, that there two mines only will, in a short time, pay back the proposed extension of capital. The proprietors hold a lease of this property for thirty-one years, under the Ecclesiastical Commissioners, from the 25th March, 1842.

There is an almighty coal, but a capacity of 1,000 of all are dressed on the mine. The expense of carriage and freight to Chester or Bristol is under 10s. a ton. One mine will be brought to profit, bearing good prospects, by driving about forty fathoms of ground and stocking ten. The other mine is likewise very promising, the rise of level has been laid out on one of the mines by the present proprietors, and all the mining agents who have inspected the mines and district report favourably of the same. The proprietors are desirous of DISPOSING OF a MOIETY of the whole of their INTEREST in the LEASE, including all the MINES and of MONEY, as it now stands. As this is not a jobbing concern, the terms may as well be stated—viz.:—The proprietors will dispose of the same moiety of their interest for ever. Should any party purchase the above named interest, and desire the exclusive management of the mines, the proprietors are quite willing to dispose of a small majority to them to effect that object.

Applications may be made to Messrs. Lloyd and Barnes, solicitors, Carrigwen; Captain Matthew Francis, Aberystwith; or to Mr. Henry English, *Mining Journal* Office, London.—The miners are situate near the village of Llanrhidwy, eight miles from the town of Lampeter, where Mr. John Hughes, the resident engineer, will show them.

TO BE SOLD, BY PRIVATE CONTRACT, a MINING DISTRICT, in the county of Durham.—This district is of great extent, comprising many thousand acres. It contains inexhaustible supplies of IRONSTONE and LIMESTONE; besides valuable VEINS, or LODES, of LEAD and COPPER, with other minerals. It is situated near railroads, in the immediate vicinity of coal, and the whole district is abundantly supplied with water to work machinery. A more promising field for advenaure, whether for the capitalist or for a company, has seldom been offered, and can seldom occur.—Particulars may be had from Messrs. Dickson and Bell, 36, Buckingham, London.

A MINERAL SURVEYOR, who, for the last six years, has directed and superintended extensive mining operations in coal and ironstone, in one of the principal iron-works of South Wales, and who will be disengaged in July next, is PREPARED to TREAT for the MANAGEMENT of COAL or IRON MINES, for the SURVEYS and VALUATION of MINERAL PROPERTIES, or for the LAYING OUT, or SUPERINTENDING the EXECUTION of, WORKS upon RAILWAYS.—Communications to be addressed to "M. T.," office of the *Mining Journal*, 26, Fleet-street, London.—The advertiser has no objection to a situation on the continent.—Satisfactory references will be given.—May 20.

TO CAPITALISTS.—A GENTLEMAN wishes to ENGAGE with a PARTY (without partnership) who has MEANS to CARRY OUT a most VALUABLE INVENTION of an HYDRAULIC MACHINE, applicable to purposes of marine and stationary engines. The advertiser offers the capitalist a valid security, as a guarantee for the payment of the principal. He is fully confident of the value of his invention, which has been attested by some highly respectable engineers in London.—Satisfactory particulars may be had on written application to "A. B." (appointing an interview), care of Messrs. Dod and Co., 12, George-yard, Lombard-street, City.

INVESTMENT.—Mr. ENGLISH is authorised to negociate for the INTEREST of ONE-THIRD in a PROPERTY, which not only pays full 10 per cent. on the capital employed at the present moment, but holds out advantages to the extent of threefold its present returns. The sum of £7,000 will be required, merely for floating capital, with the view of extending the business, on the advance of which an interest, to the extent of one third, will be at once secured in the property, on which nearly £10,000 has been already expended.—For particulars apply personally to Mr. English, 26, Fleet-street, London.

FOR SALE, by PRIVATE CONTRACT, on the ROSEWALL-HILL MINE, one and a half mile from St. Ives, in Cornwall, THREE STEAM-ENGINES, all now only three years ago; No. 1, a 36-inch cylinder PUMPING-ENGINE, 9-feet stroke in the cylinder and 7-feet in the pump, with all wood work complete, including doors and windows and first piece of connection-rod; No. 2, a STAMPING-ENGINE, on Sims's combined cylinder principle—4-horse power. The consumption of coals with this engine never exceeded 1½ lbs. per horse power per hour; No. 3, a WINDING-ENGINE, 20-inch, double power, Boulton and Watt engine—6 feet stroke, with winding apparatus (iron) complete. The whole of these engines are on the most modern construction, made of the best material and workmanship; are only one and a half mile from a good shipping port, and may be had very cheap.—Application to be made to Mr. Nicholas Trenhaile, of Camborne, to Mr. James Sims, engineer, at Redruth; or to Mr. English, 26, Fleet-street, London. Redruth, Dec. 3.

ANGLO-MEXICAN MINT COMPANY.—The shareholders in this company will please to take notice, that a DIVIDEND of TWELVE SHILLINGS per share will be PAYABLE on and after the 1st June next.—Claims to be made three clear days previous to payment, printed forms of which are to be obtained at the office, as below.—Hours of attendance from Eleven to Three.

9, New Broad-street, London, May 22. G. B. LONSDALE, Secretary.

MEXICAN AND SOUTH AMERICAN COMPANY.—The directors hereby give notice, that the EIGHTH ANNUAL GENERAL MEETING of the proprietors of shares in the Mexican and South American Company will be held at the office of the Anglo-Mexican Mint Company, 9, New Broad-street, on Wednesday, the 14th day of June next, at One o'clock precisely.—At this meeting a director will be elected in the place of H. W. Schneider, Esq., who retires by rotation, but is eligible to be re-elected. H. W. SCHNEIDER,

16, New Broad-street mews, May 16. Managing Director.

REETH CONSOLIDATED MINING COMPANY.—THE FOURTH ANNUAL MEETING.—Notice is hereby given, that the FOURTH ANNUAL GENERAL MEETING of the proprietors of shares in the Reeth Consolidated Mining Company will be held at the office of the said company, 26, Albion-street, Leeds, in the county of York, on Saturday, the 10th day of June next, at Twelve o'clock at noon.—No business is intended to be then transacted, but the meeting will be adjourned to Saturday, the 1st day of July next, at Twelve o'clock at noon, at the company's office, aforesaid. By order of the directors,

JOHN BLACKBURN, Secretary.

SHARES IN VALUABLE MINES TO BE SOLD.—An Agent is authorised to SELL some SHARES in the following FIRST-RATE MINES:

PAR CONSOLS,	CHARLESTOWN,
SOUTH CARADON,	BOSCAWELL DOWNS,

And in others of excellent estimation.

Address "X. Y." at Messrs. Wells, 32, 'Change-alley; or Messrs. Bois, solicitors, Duke-street, Devonport.

TO ENGINE-BUILDERS AND PUMP-MAKERS.—PALMER and PERKINS' PATENT PISTON, fitted in a 10-inch pump, may be SEEN any day AT SCOTT'S WHARF, SOUTHWARK-BRIDGE, Bankside. In this application of it, there is no doubt; an ordinary amount of friction—represented by 12—is reduced to 10. If these pistons were fitted to the air-pump of marine and other condensing engines, the effective power, or economy of fuel, would be materially increased; the larger the engines the more manifest would be the benefit.

RUSSIAN STEEL IRON—"OLD SABLE"—C C N D.—The UNDERSIGNED being the SOLE AGENTS of the Messrs. DE DEMIDOFF in England, the above MARK OF IRON can only be OBTAINED through them. CHARLES GRAHAM & Co., 39, King's Arms-yard, London.

GRAHAM BROTHERS, 18, High-street, Hull.

MR. JOHN KYMER'S PATENT FURNACE, whereby an ECONOMICAL APPLICATION of FUEL is EFFECTED, with RAPID EVAPORATION, and WITHOUT SMOKE.—A furnace, on this construction, is erected, and at work, at Messrs. Tuddy and Co.'s, 45, Minories, where it may be seen, by cards, to be had on application to Mr. J. M. Bosley, 71, Cornhill, or Mr. H. English, *Mining Journal* Office, 26, Fleet-street.

THE PATENT SAFETY FUSE, FOR BLASTING ROCKS IN MINES, QUARRIES, AND FOR SUBMARINE OPERATIONS.—This article affords the safest, cheapest, and most expeditious mode of effecting this very hazardous operation. From many testimonies to the assistance with which the Manufacturers have been favoured from every part of the kingdom, they submit the following letter, recently received from John Taylor, Esq., F.R.S., &c., &c.—

"I am very glad to hear that my recommendations have been of any service to you. They have been given from a thorough conviction of the great usefulness of the Safety Fuse; and I am quite willing that you should employ my name as evidence of this."

Manufactured and sold by the Patentees, BICKFORD, SMITH, and DAVEY, Camborne, Cornwall.

TO MINING ADVENTURERS AND OTHERS.—Important SAVING OF FIFTY PER CENT. in the article of GREASE.—JOSEPH PERCIVAL, of Green-street, Wellington-street, Blackfriars-road, London, begs respectfully to inform the MINING INTEREST that he MANUFACTURES an IMPROVED PATENT ANTI-FRICTION GREASE, for whims, train waggons, carriages, and all purposes for which oil and grease are now used.—A sample will be forwarded free, on application as above.

WHITWORTH'S PATENT PLANING MACHINE, with self-feeding wheel, screw motion, and reversing bar, to plane in both directions.—SELF-ACTING SLIDE AND SCREWING LATHE, DRILLING MACHINE, GUIDE SCREW-CUTTER, MORTICING BARS, &c.—Small sizes of the above patent tools may be seen at this office. J. BUCKLE, Agent.

62, Charing-cross.

ENCAUSTIC or INLAID TILES, for PAVING CHURCHES, HALLS, CORRIDORS, &c. &c.—CHAMBERLAIN and CO., of the ROYAL PORCELAIN WORKS, Worcester, beg to inform the public that, in consequence of the increased demand for these beautiful tiles, they have made EXTENDED ARRANGEMENTS for MANUFACTURING the same, and are PREPARED to EXECUTE PAVEMENTS, either from ancient examples or modern designs, for CONTRACT, or otherwise, in any part of the United Kingdom. These tiles being fired to a very high pitch, and glazed in conformity with the most ancient specimens from Malvern, Glastonbury, the Chapter-house, Westminster, and other places, are perfectly impervious to wet or damp, extremely durable, free from dust, and easily cleaned. Chamberlain and Co. take this opportunity of announcing that they have greatly enlarged the stock of their London Depôt, 1, Cornwall-street, New Bridge, Bank, and Bart., and 121, New Bond-street.

SHEFFIELD, ASHTON-UNDER-LYNE, AND MANCHESTER RAILWAY.—Notice is hereby given, that, pursuant to an Act passed in the present session of Parliament, entitled "An Act to increase the capital of the Sheffield, Ashton-under-Lyne, and Manchester Railway Company, and to alter and enlarge the powers of the said company," a SPECIAL GENERAL MEETING of the shareholders of the said company will be held at the Albion Hotel, in Manchester, on Wednesday, the 31st day of May instant, at Eleven o'clock in the forenoon, for the purpose of electing—in the place of the directors then in office, and who, under the provisions of the said Act, will, at the said meeting, retire from office—a new board of directors, of reduced number, and consisting of not more than ten, nor less than eight, directors (as may be determined upon at such meeting), for the future management of the affairs of the said company; and also for the purpose of confirming certain forfeitures of shares in the said company.—Dated 17th May, 1843.

JOHN PARKER, Chairman.
WILLIAM SIDEBOTTOM, Deputy Chairman.
15, Piccadilly, Manchester. JOHN PLATFORD, Clerk and Secretary.

SHEFFIELD, ASHTON-UNDER-LYNE, AND MANCHESTER RAILWAY.—CONTRACTS FOR WORKS.—The directors of this company will meet at their office, in Manchester, on Tuesday, the 30th instant, to receive TENDERS for the execution of the following works—viz.: No. 11, or Position Contract, commencing at a peg branded 74 miles 57 chains, and terminating at the peg branded 79 miles 5·4 chains, from Manchester, the length being 4 miles 73 chains, or thereabouts; also No. 12, or Wortley Contract, commencing at the last-mentioned peg, and terminating at the peg branded 82 miles 60 chains, from Manchester, near to the chemical works in Wharncliffe Wood, the length being 3 miles 16 chains, or thereabouts. These contracts shall comprise all the works and materials necessary for making and maintaining these portions of the railway, with all the excavations, embankments, tunnelling, bridges, culverts, drains, fences, and gates, complete, including the laying, ballasting, and finishing, the permanent way, and finding all labour and materials requisite for the same, except the rails and chairs.

Plans, specifications, conditions, and draft forms of contract, may be seen at the company's offices, 15, Piccadilly, Manchester, on and after Monday next, the 22nd instant, where printed forms of tender may be obtained.

The tenders to be sent in to the secretary, on or before Five o'clock in the afternoon on the above day of letting, and parties tendering, or some one duly authorised, will be required to be in attendance. The party whose tender is accepted will be required to enter into a bond, with two sureties, for the due performance of the contract, in a penalty of not less than 10 per cent. upon the gross sum contracted for. The directors will not consider themselves bound to accept the lowest tender.

Manchester, May 19. By order, JOHN PLATFORD, Secretary.

SHEFFIELD, ASHTON-UNDER-LYNE, & MANCHESTER RAILWAY.—TENDERS FOR LOANS.—The directors are prepared to GRANT MORTGAGES, under the powers of their Act of Parliament, FOR LOANS OF MONEY, in sums of not less than £500 each, and for periods of three, five, or seven years, at the option of the lender.—Interest, at the rate of 5 per cent. per annum, will be paid half-yearly, for which interest warrants will be given for the period agreed on, payable at the company's bankers in London, Manchester, or Sheffield.

Further information may be obtained at the company's offices in Manchester or Sheffield; at the office of Messrs. Parker and Smith, solicitors, Sheffield; Messrs. Bagshaw and Stevenson, Manchester; or Messrs. Johnson, Son, and Wetherell, Temple, London. By order,

Manchester, Feb. 15. J. PLATFORD, Secretary.

TO RAILWAY COMPANIES and CONTRACTORS, COALOWNERS and IRONMASTERS, &c.—BRYANT, JAMES, and MAY, beg to acquaint the above named, and consumers of grease generally, that they have constantly on sale GREASE of various qualities, prepared for every description of work, from the fastest passenger carriages to the ballasting waggons. The highest testimonials can be given of quality; prices very moderate.—Orders may be addressed, and samples and particulars obtained, at 15, Philpot-lane, London.

MARKS.—IN CHANCERY.—WILLIAM BUTCHER and SAMUEL BUTCHER, Plaintiffs, against WILLIAM HORRABIN and SAMUEL HORRABIN, defendants.—Messrs. W. and S. BUTCHER, of Sheffield, merchants and manufacturers, in January, 1843, filed a BILL in CHANCERY against WILLIAM and SAMUEL HORRABIN, of Sheffield, the above-named defendants, for an INJUNCTION to RESTRAIN them from MANUFACTURING and SELLING, or CAUSING to be MANUFACTURED and SOLD, any RAZORS marked or stamped with the mark WADDLA BUTIN (which they had done), or with any name or mark, or Names or Marks, in imitation of the mark WADE & BUTCHER, stamped on Razors manufactured by Messrs. W. and S. Butcher, which mark of WADE & BUTCHER is the private and exclusive mark of the said Messrs. W. and S. Butcher, and for compelling them to account to Messrs. W. and S. Butcher for the profits made upon razors so marked and stamped, whereupon the Vice-Chancellor granted an injunction in the terms as prayed by the bill, which injunction still remains.

The above-named defendants having satisfied that they had acted in error in using the said mark, in imitation of the said Messrs. W. and S. Butcher's exclusive and private mark, have consented to the said injunction being extended and made perpetual against them and their servants, and have reimbursed to the plaintiffs their full costs of the said suit, and made satisfaction to them, and have also consented to the publication of this advertisement by the plaintiffs as they shall think proper; and the plaintiffs, on their part, have agreed to discontinue all further proceedings in the said Chancery suit.—Dated this 18th day of April, 1843.

Witness, WM. ROBINSON.
JOHN DIXON, solicitor, Sheffield. SAML. HORRABIN.

TO COALOWNERS, VIEWERS, and GENTLEMEN connected with COAL and LEAD MINES.—JAMES WELCH, clock and watch maker, Houghton-le-Spring, begs respectfully to inform gentlemen connected with the ventilation of mines that he has INVENTED and CONSTRUCTED an ANEMOMETER, which the numerous experiments of the inventor and other practical gentlemen have demonstrated to be AN EFFICIENT APPARATUS FOR ASCERTAINING THE VELOCITY OF AIR IN MINES.

The Anemometer has the appearance of an elegant portable time-piece, the position of which rules to an index, engraved on the dial-plate, denoting the number of feet the air flies during their respective revolutions. By a time-piece, attached to the anemometer, the time is shown in which the pointer, No. 1, makes a revolution, and on its index is engraved the number of feet the air flies during that revolution; the pointer, No. 2, denotes the number of revolutions made by No. 1, consequently the number of feet the air flies during its revolution, which is also engraved on the index; No. 3 shows the number of revolutions made by No. 2 during its revolutions, which are not more than one in thirty-six hours; hence, an inspector is enabled, by a reference to its index, to determine the quantity of air that has passed during his absence. The utility of an article of this kind must be too evident to persons connected with mines and to be duly appreciated; and the inventor pledges himself that, whoever may favour him with an order shall have a machine which, when placed in the air way of a mine, will fully answer the purposes contemplated—as each machine is constructed, and the index regulated, from the results of actual experiments made upon it by the inventor himself.

For further particulars apply (if by letter, post paid) to Thomas Forster, Esq., Burnell Colliery, where one of the anemometers may be seen; or to the inventor, at his residence, Houghton-le-Spring, Durham, where any person, ordering a machine, may attend and see it tested.

"Houghton-le-Spring, December 28, 1842."

SEYSSEL ASPHALTE COMPANY (Claridge's Patent).—Established March, 1838.—The extensive patronage which this valuable MINERAL production continues to receive from the most eminent ARCHITECTS and ENGINEERS in this country and abroad, distinguishes it from the numerous bituminous compositions which its reputation gave rise to, but which, having been found very inferior to the original material, most of them have ceased to be used. Its merits being well known, it is only necessary to refer to a few of the public works already executed and now in progress. On the London and Greenwich Railway, and joint station, London-bridge, 400,000 superficial feet; several thousand feet at the Great Western, Birmingham, Midland Counties, South Western, Brighton, Blackwall, and other railways; covering of arches at the South Metropolitan, Highgate, and Nunhead Cemeteries; the covering of the casemates at the Penn Bank Battery, Liverpool; the pavement in Whitehall; the carriage drives at the Horse Guards, and at the entrances to the park by Apsley House; the cells and other apartments of the new prisons at Beverley; several works at the stations on the Dublin and Kingstown Railway; and many other private and private works in different parts of England, Ireland, and Scotland.—A series of prices, with books of testimonials, can at all times be had of the company's depôt, where specimens of the various applications may be seen. J. PARNELL, Secretary.

Seyssel Asphalte Depôt, Claridge's, near Westminster-bridge, March, 1843.

IMPORTANT PATENT IMPROVEMENT IN CHRONOMETERS and WATCHES.—E. J. BERT, 63, STRAND, also obtained the high distinction of receiving the Government bounty for the superlative performance of the best chronometer ever submitted to twelve months' public trial, begs to acquaint the public that the MANUFACTURE of his WATCHES, CHRONOMETERS, and CLOCKS, is SECURED to him by THREE SEPARATE PATENTS, respectively granted in 1837, 1840, and 1842.—Silver Lever Watches, jewelled in four holes, £6 5s. each; in gold cases from £9 to £10 extra.—Gold Horizontal Watches, with gold dials, from £8 8s. to £12 12s. each.—Bert's "Appendix" to his recent work on "Time-keepers," is now ready for circulation.

LAW INTELLIGENCE.

HOT-BLAST CASE—NEILSON'S PATENT.

After a long trial of ten days, unprecedented, we believe, in the annals of the Jury Court of Scotland, a verdict was returned in favour of the pursuers, at six o'clock on Saturday evening, the particulars of which will be found subjoined. The following is a copy of the issues:—

Issues in the Cause in which James Beaumont Neilson, of Glasgow, engineer; Charles M'Intosh, formerly of Crossbasket, now of Campsie, John Wilson, formerly manager of the Clyde Iron-Works, now of Dunglyston, both in Dumbarton; and James Oswald, of Shieldhall, now one of the Members of Parliament for the City of Glasgow, James Dunlop, jun., merchant in London, brother german of Colin Dunlop, after designed, Andrew Bannatyne, writer in Glasgow, Charles M'Intosh aforesaid, James Dunlop, formerly of Finlayer street, Westminster, now residing at Clyde Iron-Works, nephew of the said Colin Dunlop, and John Wilson aforesaid, as trust disponees of Colin Dunlop, formerly of Clyde Iron-Works, thereafter of Tolcross, now deceased, conform to his trust-disposition and deed of settlement in their favour, dated the 28th day of January, in the year 1834, and two codicils thereto, dated respectively the 29th day of June, 1836, and 29th day of May, 1837, which trust-disposition and codicils are all recorded in the Sheriff Court books of Lanarkshire, the 27th day of September, 1837, as also executors-dative qua creditors of the said Colin Dunlop, conform to confirmation granted to them in their favour, expede before the Commissary of Lanarkshire, of date the 16th day of April, 1838—*pro pursuers*; and

Messrs. William Baird, Alexander Baird, James Baird, Douglas Baird, and George Baird, carrying on business in partnership at Gartsherry Iron-Works, in the parish of Old Monkland, under the firm of William Baird and Company—*are defenders*.

It being admitted that, on the 1st day of October, 1828, the pursuer, James Beaumont Neilson, obtained letters-patent under the Great Seal used in Scotland, in favour of the Great Seal thereof, and duly expolled a specification, in terms of the proviso contained in the said letters patent, being Nos. 39 and 41 of process;

It being also admitted that the pursuers, other than the said James Beaumont Neilson, have acquired, by assignment from him, a joint interest in the said patent;

Whether, in the course of the year 1836, and between the 17th day of March and the 7th day of May, in the said year, and during the currency of the said letters-patent, the defenders did, in or at their iron-works at Gartsherry, by themselves or others, wrongfully, and in contravention of the privileges conferred by the said letters-patent, use machinery or apparatus substantially the same with the machinery or apparatus described in the said specification, and to the effect set forth in the said letters-patent and specification, to the loss, injury, and damage of the pursuers?

Or,—1. Whether the invention, as described in the said letters-patent and specification, is and the original invention of the pursuer, the said James Beaumont Neilson?

2. Whether the description contained in the said specification is not such as to enable workmen, of ordinary skill, to make machinery or apparatus capable of producing the effect set forth in the said letters-patent and specification?

3. Whether machinery or apparatus, constructed according to the description in the said letters-patent and specification, is not practically useful for the purposes set forth in the said letters-patent?

Signed, D. Boyle, I.F.D.

July 5, 1840.

The damages are laid as under:—

Profits claimed, on all the rules of action £10,000
Other damages, on all the same rules 10,000

Total damages laid £20,000

Edinburgh, March 4, 1840.—The Lords having heard counsel on the respective motions for the parties, ordain the minutes for the pursuers, dated 4th July and 16th November, both last, Nos. 40 and 52 of process, to be engrossed on the issues in this case as relative thereto.

Signed, D. Boyle, I.F.D.

July 4, 1840.—Rutherfurd, for the pursuers, stated to the court, he agreed that, under the first issue, it shall be competent to the defenders to try the issue of publication.

Signed, Adv. Rutherfurd.

Nov. 16, 1840.—Rutherfurd, for the pursuers, agreed that it should be competent for the defenders, in the trial of the issues, as adjusted in this case, to state any objection in point of law to the validity of the patent and relative specification, founded on the nature of the claim and statement there made on the part of the patentee, and that the court should decide the same, by way of direction, in the course of the trial.

Signed, Adv. Rutherfurd.

The case for the pursuers was opened before the Lord President and a special jury, in the First Division of the Court of Session, on Wednesday, the 16th current.

The Lord Justice General and a special jury commenced, on Wednesday, the 18th of May, to try the above issues in this cause, which may be described as the most important of modern times, in this country—whether we consider the vast interests at stake, or the great field of inquiry necessarily, —comprehended in trying the rights of the respective parties. In the words of the Lord Justice General, in addressing the jury, it was "an unparalleled trial—a trial which has embraced a more extensive body of evidence on both sides, and has occupied more of your attention, than any cause with which I am at all acquainted in this court." This trial occupied ten days, commencing, as we have stated, on Wednesday, May 18, and not terminating until Saturday, the 30th. The question regarded the validity of the patent obtained by Mr. Neilson, in October, 1828, "for the improved application of air, to produce heat in fires, forges, and furnaces, where bellows or other blowing apparatus are required." In short, Mr. Neilson proposed that the blast should be heated in its passage from the blowing apparatus to the furnace, and delivered hot, instead of cold, as formerly practised. This was to be accomplished by placing one or more vessels, or air conductors, between the blowing apparatus and the furnace, and heating those vessels externally in a considerable temperature. "It is better," says the patentee, in his specification, "that the temperature be kept to a red heat, or nearly so; but such a temperature is not absolutely necessary to produce a beneficial effect." When this invention was first made public, it was received with general surprise and distrust, and even ridicule; the proceeding, indeed the universal opinion in the scientific world, and among the manufacturers, both in this country and abroad, had long been, that the blast could not be too cold when it entered the furnace. This opinion was so far supported by the practical experience of the time, it having been remarked that the iron smelted better in winter than in summer. These prejudices were, however, dispelled as soon as Mr. Neilson's invention was come in operation, and producing such prodigious results in the production of iron. Such was the degree of heat in the fusion of the materials in the furnace, that the product was produced—*i. e.* a ton was produced in much less time with the hot blast, or it had done in twenty-six hours with the cold. Nothing generally, it was also found that this beneficial result was accomplished with one-half less fuel, and one-third less fux, or limestone. Accounts furnished, the great advantages of the invention were manifested in a remarkable degree. In 1828, or before the patent, the total quantity of iron produced in Scotland in one year was about 28,000 tons; in 1836 the total quantity had risen to about 301,000 tons, being five times the produce of 1828. This vast advance was mainly, if not exclusively, attributable to the hot blast, which had entirely superseded the cold—and a single furnace in Scotland was then working, in 1836, of all the present time, by the cold blast, with the exception of one at the Carron Works, and which in fact their own engineer was, the pig-iron produced thereby and entering the market. Another important illustration of the advantages of Mr. Neilson's invention was its effect on the English iron market. The total imported from Liverpool was 4000 tons, of which there was from Clyde, or Scotland, 1500 tons; in 1836, the total import of the same port was 37,104 tons, of which from Clyde 20,352; in 1836, the total import of iron at Runcorn was 5000, of which from Clyde 2000; in 1836, the total import was 16,141 tons, of which from Clyde, or Scotland, 11,000 tons; in 1835, the total import of iron at Chester was 11,000 tons; in 1836, the total import was 14,000 tons—and every ton of Clyde iron came from Clyde, or Scotland, since 1836 14,000 tons—and every ton of which was, of course, manufactured by the hot-blast, these telling facts on which were, of course, manufactured by the hot-blast, these telling facts on which hinged the question in dispute in Scotland.

During the greater part of the currency of the patent, which lasted from October, 1828, to October, 1842, all the manufacturers in Scotland, and also those in England, who adopted the hot-blast, took out licenses from the patentee, paying 1*l.* per ton of iron smelted by them for the use of the invention. Latterly, however, the validity of the patent has been challenged, both in England and Scotland, and an various grounds. It was chiefly on the statement of Mr. Neilson, on this trial, that he had as yet contended in order to bring his patent, having attempted to carry indirectly, and unsuccessfully, through the prolixe existing the hot-blast without his license, and who were thereby deprived of having recourse to the Queen's Bench, of the defence, on the ground that the patent was void, on the ground, against the Queen, that the patent was void, on being only for a principle; or, in other words, a ground, or object, that was void, as having been attained by other and old, without fulfilling the conditions of the law, by clearly specifying the practical mode in which this was to be accomplished; that, in fact, the patent merely embodied a principle, without stating that principle; that, in fact, the patent merely embodied a principle, without stating that principle with any practical effect, in order to enable the patent right. Further, it was contended that the specification did profess to set forth a practical mode of accomplishing that end, but that the patent was obliged to be held, because this mode, if followed, would lead to a failure or impracticable result. Then it was alleged that Mr. Neilson was not the original inventor, seeing that the hot blast had been employed at other places, and that it was publicly known previous to the date of the patent. This did not avail, and it was publicly known previous to the date of the patent. This did not avail, and it was plainly proved by the evidence, on the part of Mr. Neilson, that the invention might be carried on together with the cold blast, and that Mr. Neilson had suggested the discovery from another, but, indeed

DESCRIPTION OF THE NEW PROCESS FOR MAKING WROUGHT-IRON DIRECT FROM THE ORE.

AS PRACTISED AT THE SHIRVA WORKS, KIRKINTILLOCH, SCOTLAND.

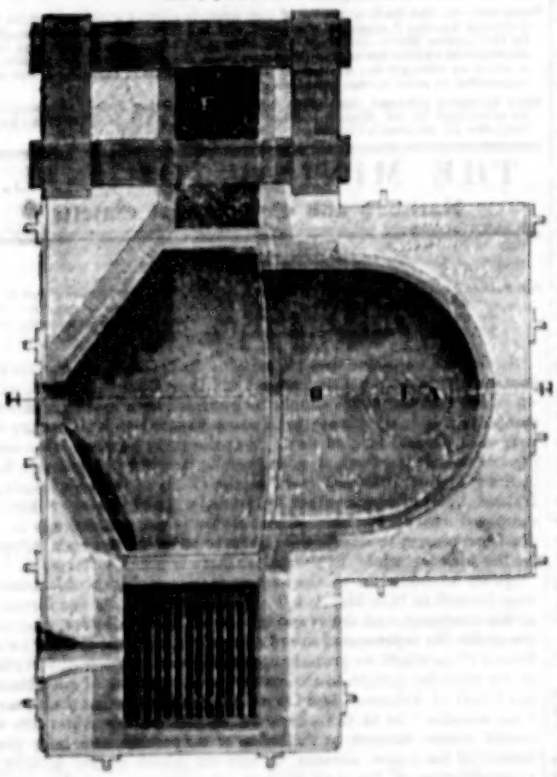
BY WILLIAM NEALE CLAY.

In this communication, the author first describes the various stages through which the metal passes, between the reduction of the ore and its arriving at the state of malleable iron, by the ordinary mode of manufacture; and then he explains the process which he has invented, and introduced practically at the Shirva Works. By the ordinary system of iron-making, the ores are reduced into the state of carburet of iron, and then, by refining and puddling, the metal is de-carburetted; thus making it into malleable iron, by a number of processes, which are recapitulated:—1. Calcining the ore; 2. Smelting in a furnace, by the aid of blast (either cold or heated), with raw coal, or coke, for fuel, and limestone as a flux; 3. Refining the pig into plate-iron; 4. Puddling, shingling, and rolling, to produce the rough, puddled, or No. 1 bars; 5. Cutting up, piling, and rolling, to produce merchant, or No. 2 bars; 6. A repetition of the same process, to make best, or No. 3 bars. Seeking to diminish the number of manipulations, by the new process, a mixture of dry Ulverstone, or other rich iron ore (hæmatite), is ground, with about four-tenths of its weight of small coal, so as to pass through a screen of one-eighth of an inch mesh. This mixture is placed in a hopper, fixed over a preparatory bed, or oven, attached to a puddling furnace of the ordinary form. While one charge is being worked and balled, another gradually falls from the hopper, through the crown, upon the preparatory bed, and becomes thoroughly and uniformly heated; the carburetted hydrogen and carbon of the coal, combining with the oxygen of the ore, advances the decomposition of the mineral, while, by the combustion of these gases, the puddling furnace is prevented from being injuriously cooled. One charge being withdrawn, another is brought forward; and, in about an hour and a half, the iron is balled, and ready for shingling and rolling.

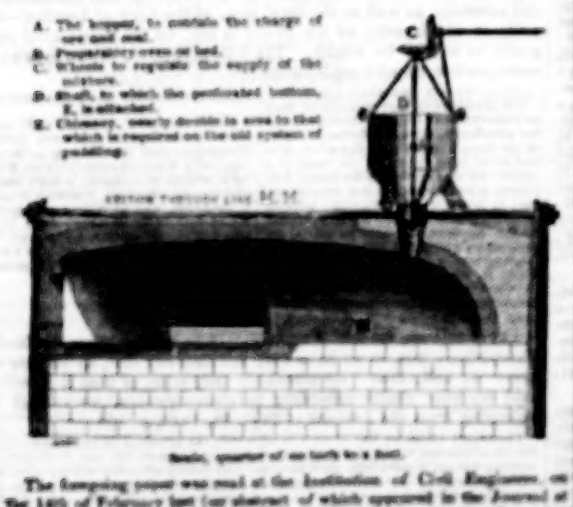
The cinder produced is superior in quality to that which results from the common system; it contains from 50 to 55 per cent. of iron, and is free from phosphoric acid—which frequently exists, and is so injurious, in all the ordinary slags; when re-smelted, it produces as much No. 1 and No. 2 cast-iron, and of as good quality, as the ordinary black-band ore of Scotland.

The cast-iron produced from the slag (amounting to one-third of what was originally contained in the ore) is mixed with the ore and coal in the puddling furnace; and thus, while nearly all the iron is extracted from the ore, as much wrought-iron is produced in a given time, and at the same cost of fuel, as by the old system. The first process, producing puddled bars of superior quality, is, consequently, on a par with the fourth stage of the old system, as it avoids the necessity of the preceding separate manipulations. From the absence of all deleterious mixture, by once piling and re-heating the rough bars, iron is produced, of a quality in every respect equal, and in powers of tension superior, to that which results from the second piling and re-heating, in the common mode; it is therefore contended that the two processes produce from the hæmatite nearly one-third more iron, of as good a quality as is usually obtained by the six processes of the old system. The iron thus produced bears a high polish, is very uniform in its texture, is ductile and fibrous, having more than an average amount of tensile strength; and, at the same time, appears to be more dense, as it possesses a peculiar sonorousness, resembling that of a bar of steel, when struck. It has also been converted into steel of a good quality.

Scale, quarter of an inch to a foot.



A. The hopper, to contain the charge of ore and coal.
B. Preparatory oven or bed.
C. Wheels to regulate the supply of the sculpture.
D. Shaft, to which the perforated bottom, E, is attached.
E. Chimney, nearly double in area to that which is required on the old system of puddling.



Scale, quarter of an inch to a foot.

The foregoing paper was read at the Institution of Civil Engineers, on the 14th of February last (an abstract of which appeared in the Journal at the time, in our usual report of the proceedings). An interesting discussion followed, to which several members took part, and which we shall publish at length in our next week's Journal.

Iron Duties.—In the House of Commons, on Tuesday evening, Mr. Wodehouse gave notice of his intention, on Tuesday next, to move an address to the Crown for the production of a letter, addressed by Mr. Canning, in 1826, to the British Minister at Washington, respecting the duty on wrought and hammered iron, and as to any answer given to such communication.

Iron Lighter for the Thames.—An iron lighter is building at Hull, calculated to carry fifty tons of goods, but no passengers, that will ply between Hull and London steamers using Custom-House quay.

LECTURES ON MINERALOGY AND METALLURGY, AS APPLICABLE IN THE ARTS—No. III.

BY PERCIVAL N. JOHNSON, ESQ.

The next metal which the lecturer described was tin, for which this country has been famous from the earliest periods of our history, and is most extensively employed in the arts; it is almost only found in a state of oxide, and is combined with highly carbonaceous matter, to bring it to a metallic state, and a proportion of lime to act as a flux for the fusion of any earthy matter that may be combined with the ore—it is reduced in a reverberatory-furnace. The easy fusibility of tin renders it a most valuable alloy of other metals; with lead, in various proportions, it forms pewter, and the solder of the plumber, and, combined with bismuth, it forms an easily fusible alloy.—The tin plate of commerce is sheet iron, immersed, while hot, in melted tin; with mercury it becomes an amalgam for silvering (as it is termed) looking glasses. The plate intended to be silvered has a sheet of tin foil placed very smoothly on one surface; mercury is then poured on the tin, and subjected to a great pressure for several days, when the superfluous mercury having drained off, the glass becomes completely coated. Tin is a component of brass, used for guns, or in machinery, and also bell metal, of which it forms a large proportion. In a state of oxide it is extensively used in colours for pottery and porcelain, forming a white opaque enamel, used for dials, and with lead a yellow one, and a solution of tin in nitric acid is applied as a valuable mordaunt in dyeing scarlet. The purple powder of Cassius, the secret of making which had been lost for many centuries, but which the perseverance of our manufacturers at length restored, is a precipitation from chloride of gold, by muriate of tin. Cerium and columbium are so scarce as to be but little applied in the arts. Tungsten is also but little known, being principally used as a mordaunt in dyeing. The oxide of titanium gives the peculiar colour to artificial teeth, in the form of enamel, and that of uranium gives the beautiful lemon colour to glass, and, in combination with cobalt, which is blue, forms the fine greens used in porcelain. Chrome, as a metal, is not used, but is most extensively applied as an oxide, and, in combination with potash, it is an excellent test for other metals in solution, precipitating them in definite proportions as chromates; the green oxide gives a fine colour in printing earthenware, and painting porcelain. The chromate of lead is a brilliant yellow pigment of various shades, and extensively used in painting; it is also much used in dyeing, giving beautiful shades of green, orange, or yellow, according to the manner and quantities in which the bichromate of potash is applied. Bismuth is easily reduced from its ores, and, when melted, and allowed to crystallise, forms elegant crystals, with cubical facets; although requiring a degree of heat equal to 480° Fahrenheit, it has the singular property of rendering other metals fusible at a temperature below that of boiling water, and some of these alloys have been used in the safety-valves of steam-engines; the oxide is used in medicine in spasmodic complaints, and, as a mordaunt, the nitrate of bismuth produces a violet colour. Arsenic is very generally found in combination with other metallic ores, from which it is extracted by calcination; being burnt in contact with atmospheric air, the oxide of arsenic flies off in the shape of vapour, and is condensed in long flues, erected for the purpose. One mine alone, in Cornwall, under the management of the lecturer, produced from 30 to 40 tons per annum. Metallic arsenic is of a bright lead grey colour, but soon tarnishes; it is useful as an alloy in small proportions, giving hardness to other metals; it has the property of rendering the yellow metals white, and, combined with copper, is used for metal dials, barometer scales, &c. The white oxide, or arsenious acid, is used in the formation of stearine candles, and in the manufacture of flint glass, destroying the green colour, and, when used in excess, giving it a beautiful opacity. The brilliant pigments, orpiment and realgar, are sulphurets of this metal, the former having the largest quantity of sulphur; it also forms Sheele's green by precipitating a sulphate of copper with arsenite of potash. It is of powerful effect in medicine, and, in small doses, is fatal to animal life; even from the minute portions of arsenious acid deposited on the herbage in the neighbourhood of the smelting-works at Swansea, the cattle feeding on it become afflicted with eruptions and ossification of the joints to a dreadful extent. Cobalt may be considered among the rare and valuable metals, though never used in a state of purity, either as a metal or as alloy. Its application as an oxide, forming the various blue glasses and pigments, is more extensive than any of the metals; the mineral being carefully picked from its matrix is calcined, in order to get rid of the arsenic and sulphur combined with it, which renders it a rough oxide, and, mixed with double its weight of siliceous sand, is known as zaffre. Smalts, or powder blue, is a preparation of cobalt, made by fusing zaffre with soda into a deep blue glass, which, being poured into water in a melted state, to render it more pulverescent, is ground and levigated; the colouring property of cobalt is so great, that one part of its oxide gives a deep blue tint to 250 of glass. A muriate of cobalt and iron gives a sympathetic ink, which gives a green colour when heated, and a good imitation of ultra marine is made by mixing a minute quantity of salts of cobalt with a precipitation of a solution of alum by caustic ammonia; 300,000 lbs. weight of zaffre are employed annually in England in colouring glass and porcelain, although its colouring properties are so very powerful. Nickel (the German name for Devil) was but little known until introduced in this country as German silver, and is found in combination with arsenic and cobalt; when separated, which is done in the process of forming the blue colours before-mentioned, it is ground and sifted to a fine powder, and burnt with twice its weight of nitrate of potash, which forms an arseniate of potash and oxide of nickel; the former being brought into a state of solution, the latter is collected on a filter, mixed with charcoal dust, and heated, by which means the nickel is brought out in a metallic state—18 parts of reduced nickel, 55 of copper, and 30 of zinc form British plate; the lecturer stated that he had made from fourteen to sixteen tons per annum of this compound for spoons, forks, candlesticks, &c., besides the quantities manufactured by others, the greater portion of which, however, were little better than common brass, and were soon tarnished, as the expense of the nickel tempted the manufacturers not to adhere to the above proportions. A perfectly pure oxide of nickel gives a peculiar pearness green to porcelain.

In commencing his third lecture, Mr. Johnson observed that, from the very extensive nature of the subject, he could only bring before his audience such points connected with the uses of the metals as were of general utility, and must pass over many manipulations, which were interesting as experiments, and the chemical effects they illustrated. The next metal he described the uses of was silver, which is found in combination with most other metals, and as a chloride, an oxide, and a sulphuret. Its reduction is effected either by amalgamation or smelting; for the first named process, the ore is reduced to a fine powder, then mixed with common salt, and a portion of calcined copper pyrites, and exposed to the atmosphere, by which a double decomposition takes place—the sulphur combines with the soda of the salt, forming sulphate of soda, while the chlorine of the salt combines with the silver, forming a chloride of that metal. Mercury is then added, which decomposes the chloride, and forms an amalgam with the silver; the excess of mercury is separated by squeezing through leather bags, and the remainder is expelled by heat, leaving the silver nearly pure. In extracting the silver by smelting, advantage is taken of the more ready oxidation of other inferior metals; the ore is smelted with a large proportion of lead ore, the lead combining with the silver, and the earthy part with some of the inferior metallic portions, and forms a rough slag. The mixed metals are then exposed to a strong heat, in contact with atmospheric air, by which the lead becomes converted to an oxide, commonly known as litharge, and the silver remains pure. The chief use of silver is as a circulating medium, but as the metal, when pure, is too soft either for that purpose or for manufacturing, it is alloyed with copper, according to a standard, the Spanish dollar containing 916 24ths of silver, and the standard of England being 222 240ths, and articles of manufacture above a certain weight, made in England, are stamped by an officer appointed by the Government. There are various ways of plating, or silvering, other metals, the most common, for the ordinary Sheffield and Birmingham goods, is thus effected:—An ingot of copper, about eight inches long, three broad, and two thick, has one side brought to a perfectly smooth surface; a piece of fluted silver is then cut to the size, bound on to the copper, and placed in a muffle furnace until it melts on the surface, and is then rolled out flat. For plating on steel and other metals, the article previously fashioned is brought to a clean surface, immersed in melted tin, and wiped while hot with a brush or flannel; thin silver leaf is then rubbed on, and, by carefully holding over a charcoal fire, the tin forms a solder for the two metals. A method of plating by electricity has lately been introduced, and is likely to supersede all the others. Silver is largely employed in the arts as enamel, which is prepared by dissolving the metal in nitric acid, dissolving the crystals at a gentle heat, and casting into cornets. A solution of this nitrate of silver forms the indelible marking ink for writing on linen. Chloride of silver, with whiting, heated on the surface of glass, gives a yellow stain to it, and an oxide of silver, with the purple powder of Cassius, forms the beautiful rose enamel in enamel and porcelain painting.

[To be continued in our next.]

Non-Election of Secretary Sometimes.—In the House of Commons, on Thursday evening, Mr. G. W. Wood obtained leave to bring in a bill "to exempt scientific and literary institutions from the payment of parochial and municipal rates and taxes for such parts of their buildings as are used exclusively for scientific and literary purposes." These institutions were supported by voluntary subscriptions, and, therefore, he held that it was the duty of the legislature to foster them. The relief which he proposed to afford them would be as valuable as a direct grant.

THE SCREW PROPELLER FOR STEAM-BOATS.

A small iron steamer, called the *Liverpool Screw*, has, for some time, been causing considerable interest on the Mersey, as exhibiting a vast improvement in the propulsion of vessels by steam; she is propelled by a screw, which was patented by Mr. Woodcroft some years since, but has not been brought much into notice, notwithstanding, from the present experiment, it bids fair to supersede all others, and do away, in a few years, with those unsightly and cumbrous appendages—"paddle-boxes." The thread of the screw is not of an uniform pitch, as usually made, but the angle the worm makes with the axis is gradually enlarged, in order that the first impact on the water by the end of the screw, should be increased in force, by the blade following it up with greater power, and the results prove that this principle is quite correct in practice. Last week a severe trial of her powers took place, and which, evidently, proved her superiority; she was matched against the *Bridgewater*, a paddle-boat, the nominal power of which is 34-horses, while the *Liverpool Screw* is only 20; the latter had five flats in tow, and the *Bridgewater* seven; thus loaded they started from the Duke's Dock, and the *Screw* arrived at Runcorn in 1 h. 47 m., beating the *Bridgewater* by a few minutes, and showing a superior power in the *Screw*, in proportion to the horse-power, of 25 per cent. She has been tried in the canals, and was found not to have the least effect on the banks. On leaving the Duke's Dock on the above trial, she had 18 cwt. of coke, and 4 cwt. of coal on board, to this was added 11½ cwt. of coke, and with this fuel the steam was up from seven in the morning until half past eight in the evening, and 7 cwt. was then remaining the quantity of fuel generally consumed not much exceeding 1 cwt. per hour. The impediments which paddles place in the vessels way, when deeply laden, or in a rough sea, are, by this plan, entirely avoided, as the screw works as well in a storm as in smooth water. The same principle can be applied to vessels of the largest class, and the engines made to act directly on the screw; and Messrs. Mather, Dixon, and Grantham are prepared to apply it to ships of war, so that all the machinery shall be below the water-line. The following are her dimensions and power:—The vessel is 65 feet between the perpendiculars, and 12 ft. 6 in. beam; her average draft of water, when ready for work, is 3 ft. 9 in.; she is worked by two cylinders thirteen inches diameter, and eighteen inches stroke, and when light, averages about eighty-five revolutions per minute. The boiler is on the locomotive principle, and the usual pressure of the steam 50 lbs. to the square inch. Expansion valves are always used, which cut off the steam at one-fourth of the stroke—thus by making allowance for the pressure in the blast-pipe, and for the operation of the expansion, which wire draws the steam at closing, the actual power is equal only to a boiler pressure of from 27 lbs. to 30 lbs. per square inch.

NEW COMPANIES.

[In noticing such new adventures as may from time to time be brought before the public, it is hardly necessary to observe, that we must not be considered in any way to admit the correctness of the information conveyed (which, unfortunately, too often requires much cautious investigation), but merely lay such particulars before our readers as we may glean from prospectuses, advertisements, &c., to call their attention to, and make them acquainted with, the subject.]

MARINERS' AND GENERAL LIFE ASSURANCE SOCIETY.

Among the almost numberless institutions for the assurances of human life, the purchase of annuities, and the securing some assistance in old age, or a legacy for the survivors at death, it has struck us as singular, that, while almost every peculiar profession has been taken into consideration, and calculations made for instituting especial establishments of this description for their benefit, that one on which Great Britain is so dependent, to which she owes her proud pre-eminence in the scale of nations, and by the valour and hardihood of whose adherents she has maintained the sovereignty of the seas, should never have been thought of sufficient importance to form the basis of an especial assurance society; nor have there been any of the inducements held out to this class for making deposits, taking loans, or effecting insurances, which are so frequently pressed upon the attention of other parts of the community; nor is there a plan or provision for funds to form a nucleus towards the support of an institution or hospital devoted to the mariner in his old age. We are led to these remarks by having noticed, with much pleasure, that a society under the above head is about being formed, offices for which are taken at the Commercial Hall, Threadneedle-street. We have now before us a circular, issued by William M'Nicll, Esq., from whom the plan emanates, in which he states, that the most careful investigations of the principles of life insurance and deferred annuities have been entered upon with their general applicability to mariners, and the conviction has arisen, that there is abundant scope for a mariners' assurance association, embracing all the ordinary risks taken by other companies, but which shall peculiarly adapt itself to the wants and wishes of so large and important a class among the British population. It is true that many of the present offices will take risks upon the lives of individuals who may, from their peculiar avocations, be continually traversing the seas and various portions of the globe, yet so vague and wild are the calculations, that the premium to be paid on one life, as offered by two of the most respectable old established companies, differed no greatly, that one was only 4 per cent. per annum, while the other extended to 10 per cent. per annum. Mariners, it is true, may also purchase deferred annuities, but the advantages of so doing are made so little apparent to them, that it is rarely adopted by individuals of this class, yet there can be no doubt, that numbers of provident men engaged in a seafaring life, if once their attention was called to an establishment founded on calculations especially adapted to their pursuits, would with avidity avail themselves of its advantages, particularly when it could be known, that for so small a payment as 5l. per annum, commencing at twenty years of age, an annuity of more than 50l. a-year may be secured at sixty years of age. The intention is to carry into effect "A Mariners' and General Life Assurance Company," having, for its main and important objects, the effecting of assurances on lives and survivorships, principally of maritime men—the granting or purchasing of present or deferred annuities—receiving deposits upon interest—advancing loans—promoting insurances by deferred payments—the purchase and sale of reversionary interests—and, finally, to create a nucleus fund for a long projected and much wanted hospital, similar to that of Greenwich, for destitute or disabled members of the mercantile marine. Most heartily do we wish success to the embryo establishment, as, whatever tends to lure individuals into provident habits, not only lays the foundation of their own future comfort and independence, but advances the morality and well-being of society at large.

Safety of Steam Vessels at Sea.-Boats.—During the proceedings of the Privy Council, held last week, on the subject of Morgan's patent gutta-percha, a full report of which appeared in the last *Mining Journal*, Lord Brougham said:—"I know a very great sailor, one of the greatest seamen of the present time, who said to me that he would not cross the Atlantic in the *Great Western* if they would give her to him, so dangerous did he consider steamers were, as sea-boats, at sea, certainly not on a lee shore."—Christopher Claxton, Esq., R.N., managing-director of the Great Western Steam-Ship Company, Bristol, in a letter to the *Editor of the Times*, has replied to this certainly inconsiderate offension, and states that, in the completion of his duties, he has repeatedly been called before the public, to refute observations tending to run down the *Great Western*, though, perhaps, made without such intention. He says he could bring many proofs of steamers surviving gales in which the best found sailing ships must have gone on shore, and instances the case of the *Sparkler*, steaming off a lee shore in the height of a hurricane, when all the ships in Carlisle Bay, Barbadoes, were forced high and dry from their anchors or moorings; and also the *Hydra*, steaming to sea at or near Beyrout, when one of her Majesty's men-of-war cut away all her masts, with three anchors ahead. He then relates that the *Great Western*, on her last homeward voyage, in the bay formed by Long Island and the Jersey coast, within half an hour's sail of the bar at Sandyhook, with the wind south-east, and dead on shore, was caught by a furious hurricane, which lasted twelve hours, and so hard, that one of the boats, contrived by the sea, was chipped to atoms in the slings, and during this time, in fifteen fathoms water, when no canvas could have stood a minute, instead of nearing the shore, she increased her distance from it. The American papers teemed with the losses in this frightful gale, and great fears were openly expressed for the fate of this gallant steamer. He concludes by saying, that the steamer that can for twelve hours make head against a hurricane, when there was not two hours' drift for any sailing ship to extricate, would not do very badly in an ocean tempest of whatever strength or duration.

Burnett's Anti-Dry-Rot Process.—The machinery which has been recently established at Portsmouth Dockyard for the impregnation of timber, cordage, canvas, &c., with Sir William Burnett's compound for preserving them from dry-rot, mildew, or moth, is said to have answered very well. It consists of an exhausting and a forcing-pump; by the former the air is exhausted from the pit, which is sufficiently capacious to hold twenty loads of timber, and as soon as there is a perfect vacuum, the other pump forces the compound into the pit, and the timber, &c., becomes thoroughly impregnated with it. However much cautious men may have formerly questioned the utility of submitting the sails and rigging of a ship to this solution, there is now scarcely a single officer in the service but admits that its benefits are unquestionable. From numerous representations of the undoubted utility, we understand the Lords of the Admiralty have resolved to introduce the preserved timber, sails, and cordage into general use in the navy, and Plymouth and Chatham Dockyards are to be fitted with similar apparatus for preserving them as that now in use here.

ELIGIBLE INVESTMENT.—TO BE DISPOSED OF, ON ADVANTAGEOUS TERMS, TEN SHARES in the YORK AND LONDON LIFE ASSURANCE COMPANY, on which £5 per share has been paid, and, from the directors having relinquished the fire department, which entailed such severe losses on the Company, and confining themselves to the life business, which is highly profitable, and without risk, it may be considered as one of the safest opera-tions in which capital can be employed. The high character and well-known business habits of the board of direction being sufficient guarantee for the zeal and ability with which the business is conducted, and affording the best reasons for the successful results now anticipated to attend their exertions.

The fullest particulars can be had on application to Mr. English, at the office of the *Mining Journal*, 26, Fleet-street, London.

SMOKE NUISANCE.—EXTRACT from the MINUTES of the NUISANCE COMMITTEE of this day.

MANCHESTER.—Road report from the members of the committee, who inspected Mr. Samuel Hall's smoke-consuming apparatus.

[COPY OF REPORT.]

The undersigned beg to report that they have inspected Mr. Samuel Hall's Smoke Burning Apparatus, at the Manchester and Birmingham Railway Station, London-road, and found that, by the application of his patent, the large volumes of smoke made by the ordinary boiler fires, when firing up, were nearly, if not entirely, con-sumed, the thin light vapour arising from the chimney being barely perceptible.

Abel Heywood.	Joseph Boole.
William Rowbotham.	George Thompson.
William Ashworth.	Thomas Wrigley.
John Leigh Cooke.	William Hilton.

RESOLVED,—That a copy of the above report be furnished to Mr. Hall.

(A TRUE COPY.) THOS. WROE.

Town Hall, Manchester, March 29, 1843.

That Mr. Samuel Hall, and not Mr. Charles Wye Williams, is the first inventor and patentee of the methods of consuming smoke, by supplying air to furnaces in the manner described in the specification of the patent, bearing the date of the 29th day of April, 1834, and that of Mr. Williams in the year 1839. By both Mr. Hall's patents air is supplied; in one case it is heated, in the other it is not. Whether Mr. Charles Wye Williams's patent is anything more than a mere clumsy imitation and infringement of those of Mr. Hall, will be evident to any one who will take the trouble of examining their specifications.

PHOTOGRAPHY.—GREAT IMPROVEMENTS having been recently effected in this interesting and extraordinary science, by Mr. BEARD, the patentee, in the process of TAKING and COLOURING LIKENESSES, the public are particularly invited to an inspection of various, at the establishments, 85, King William-street, City; Royal Polytechnic Institution; and 34, Parliament-street; where exchanges for new, in lieu of old, portraits, may be had, on payment of 5s.—Colouring small busts, 5s.

BRITISH HOLLANDS DISTILLERY COMPANY, AND ASSOCIATION FOR THE PRODUCTION OF HOME BRANDIES AND ALL OTHER SPIRITUOUS LIQUORS.

Office of the Company—10, Old Broad-street, London.

REGULATIONS.

That the nominal capital be £100,000, in 20,000 shares, at £5 each.

That a deposit of £1 per share be paid on the appropriation of shares, beyond which it is confidently expected no further call will be required; but no call to be made for more than £1 per share, or without three months' notice.

That all shares on which the call shall not have been paid within thirty days after it becomes due, shall be liable to be forfeited, for the benefit of the company, at the discretion of the directors.

That the management of the company shall be intrusted to a board of directors, consisting of not more than nine directors. The first directors to continue in office three years, when three shall retire annually, but be eligible to be re-elected.

That any vacancy occurring in the board of directors, shall be filled up by the di rectors for the time being.

That the directors be authorised to enter into all such contracts, and incur such expenses, as they may deem necessary for the formation and development of the views of the company.

That the officers, agents, and servants of the company, shall be appointed by the directors.

That, for the security of the company, the shareholders shall be associated by a deed of settlement, wherein shall be contained a stipulation, that in all contracts entered into by the company, the shareholders shall not be personally liable for, or be called upon, on any account or pretence whatsoever, to pay a larger sum than the amount of the shares held by him or her; and such stipulation shall be con-sidered as a component part of every conditional obligation entered into by the com-pany; and, to remove every possible liability, all orders shall be countersigned by the secretary, and given in the annexed form:—

"On condition that you only hold the paid-up capital and money receipts of this company liable to you for the payment of your demand upon it, and that you do not mortgage, or personally become for the same, or any part thereof, either the directors or shareholders, or any of them, or any person who, without an express stipulation to the contrary, you might, by law, hold to be a partner, or subject to be sued by you, please supply," &c.

That a general meeting be held once in each year, or oftener, if necessary, to re-ceive a report of the audited accounts, and of the proceedings of the company.

Applications for shares to be made, on or before Saturday, the 3d of June, to the secretary, at the office of the company, or to the solicitor, 1, Bank-street, Bagnor-street, where prospectuses may be had, samples seen, and all other information obtained.

ANNUITIES.—In the AUSTRALASIAN COLONIAL AND GENERAL LIFE ASSURANCE AND ANNUITY COMPANY assurances participate in the profits of the company, and receive a rate of annuity much more favourable than can be granted by any company making its investments wholly in England. The company is enabled accurately to grant those favourable terms from the advantage it possesses of investing a portion of the funds at a high rate of inte-rest.

DIRECTORS.

Edward Barnard, Esq., F.R.S.	C. R. Mangles, Esq.
Henry Rawlin, Esq.	J. B. Montefiore, Esq.
John Henry Cowell, Esq.	J. H. Ravenshaw, Esq.
Gideon Cumpbell, jun., Esq.	William Walker, Esq.

BANKERS.—The Union Bank of London.

COLONIAL BANKERS.—The Bank of Australasia incorporated by Royal Charter, 1835, No. 7, Moorgate-street.

PHYSICIAN.—Sir Power, 62, Gloucester-street, Queen-square.

SOLICITORS.—Messrs. Swain, Stevens, and Co.

SECRETARY.—Edward Byrne, Esq.

Prospectuses, with tables, forms of proposal for the purchase of an annuity or for making an assurance, and every information, may be obtained by application at the office of the company, No. 130, Bishopsgate-street, corner of Cornhill.

BRITANNIA LIFE ASSURANCE COMPANY,

1, PRINCES-STREET, BANK, LONDON.

This institution is constituted by special Act of Parliament (4 Vict., cap. 16), and is so established as to afford the benefits of life assurance, in their fullest extent, to policy-holders, and to present greater facilities and accommodations than are usually offered by other companies. The decided superiority of its plan, and its claims to public preference and support, have been proved incontestably, by its co-lossal success.

Assurances may either be effected by parties on their own lives, or by parties in-terested therein on the lives of others.

The effect of an assurance on a person's own life, is to create, at once, a property in reversion, which can by no other means be realised. Take, for instance, the case of a person at the age of thirty, who, by the payment of £3 os. 4d. to the Britannia Life Assurance Company, can become at once possessed of a responsible property, amounting to £1000, subject only to the condition of his continuing the same pay-ment yearly during the remainder of his life—a condition which may be fulfilled by the mere saving of eight shillings weekly in his expenditure. Then, by the ex-ercise of a very slight degree of economy—such, indeed, as can scarcely be felt as an inconvenience, he may, at once, realise a capital of £1000, which he can be-queath, or dispose of, in any way he may think proper.

Detailed prospectuses, and every requisite information as to the mode of effecting assurances, may be obtained at the office.

PETER MORRISON, Resident Director.

A board of directors attend daily, at two o'clock, for the dispatch of business.

EUROPEAN LIFE INSURANCE COMPANY.

No. 10, CHATHAM-PLACE, BLACKFRIARS, LONDON.

Established, January, 1819.

PRESIDENT—Sir JAMES BOSVILLE CARNAC, Bart., Bank Cliff, Lymington.

VICE-PRESIDENT—GEORGE PUDDEN, Esq., 5, Finsbury-square.

DIRECTORS.

Thomas Henry Call, Esq., 1, Mount-street, Grosvenor-square.
John Knott (Cornet), Esq., 27, Devonshire-street, Portland-place.
Thomas Sterling, Esq., 17, Eaton-square.
John Gladstone Hamilton, Esq., 1, Old Palace-yard.
William Parker Jervis, Esq., 10, Cadogan-place, Sloane-street.
Rev. Philip le Geyt, 15, Charlotte-street, Bedford-square.
William Shepherd, Esq., Serjeants' Chambers, Whitehall.
Frederick Slight, Esq., 21, James-street, Buckingham-gate.
John Stewart, Esq., 1, Old Jewry-chambers.
John Thorpe, Esq., 5, Finsbury-place.
George Thomas Watkins, Esq., Wilderly-park, Ammanford, Wilts.

PROPOSALS are offered to this very established society to suit the views and the means of every class of insurers. Premiums are received yearly, half-yearly, or quarterly—or there are increasing or decreasing ones. An assurance of £100 may be effected on the increasing plan, by an annual premium, for the first five years, of £1 2s. at the age of 21; £1 3s. at 30; £1 5s. at 40; £1 12s. at 50; £1 19s. at 60; and £2 10s. at 70; or one half only of the annual rate, with interest on the remainder, will be required for five or seven years, the other half to be paid at the non-resistance of the assured. The assured has the participation equitably in the profits realised at the periods of valuation and appeals.

A liberal commission is allowed to solicitors and agents.

DAVID PUDDEN, Secretary.

N.B.—Agents are wanted in towns where none have been yet appointed.

COMPOSITIONS FOR WRITING WITH STEEL PENS.

PERRYDOCK'S WRITING FLUIDS.

These compositions, which have so remarkably superseded the use of the steel pen are brought to such great perfection, being much easier to write with, more durable and in every respect preferable to the ordinary ink. In various elements their have become somewhat cheaper than those formerly sold. The writing fluid, changing into an intense black at the time; a permanent unchangeable blue black ink, for engrossing purposes; a superior copying ink, for ordinary writing, a complete character, but quick fluid; a brilliant carmine ink, for ornamental writing, a red composition record ink, and a superior marking ink, for linen, silk, &c. A new kind of marking ink, for linen; and other inks, adapted for preserving us from irregu-larities and evils.—N.B. Black ink and manufactories of the above articles are constantly being manufactured as "new discoveries," but, on examination, they will be found to have very much new names. Prepared by Henry Stephens, the inventor, in Stam-ford-street, Blackfriars-road, London; and sold by all stationers and booksellers.

Also, Stephens's patent Blue Pens.

Just published, Part I.,

COMBUSTION of COAL, CHEMICALLY & PRACTICALLY CONSIDERED. With coloured plates.

By CHARLES WYE WILLIAMS, Esq.

London: Simpkin, Marshall, & Co., and J. Weale; Birmingham: Wrightson & Webb.

TO CONTRACTORS.—The directors of the LONDON WOOD PAVING COMPANY are ready to RECEIVE TENDERS for TAKING UP the STONE PAVING in CHEAPSIDE, from Wood-street to Newgate-street and St. Paul's Churchyard; excavating the ground, supplying the best blue lias lime, forming a concrete foundation, and LAYING DOWN FERRING'S SAFETY WOOD PAVING, already manufactured—but do not bind themselves to accept the lowest.

Further information given at the offices, 2, Charlotte-row, Mansion-house, where sealed Tenders will be received, for part or all the work, &c., on or before the 9th of June, at Two o'clock precisely, after which hour no Tender will be received.

J. LEE STEVENS, Superintendent.

PAYNE'S WOOD PATENT.—This PROCESS, for PRE-SERVING VEGETABLE SUBSTANCES, will render—

" Unimflammable
" Of the most inferior quality, equal in point of strength, durability, and usefulness, to the hardest and best descriptions.
" Unassailable by insects.
" Sufficiently seasoned for any use in a comparative short time.
" Elastic when required.
" So granulated in its surface (and throughout the body) as to prevent pas-sage, in a great measure, from being slippery.

The combinations are trouble, and are mostly of such trifling cost, as scarcely to be appreciable as articles of expense where the work is considerable. Hence, for ship and house building, public works, piers, sleepers for railroads, engineers', coopers', and millwrights', work, wood pavements, cabinet work, hop poles, and wherever wood is used, the advantages of this process must be apparent.

The patentee is now ready to undertake orders for the preparation of timber un-der this process, and is authorised to state that his invention having been minutely investigated by Richard Phillips, Esq., the eminent chemist, by order of the hon. Commissioners of Woods and Forests, they have been pleased to adopt it in some of the works now in progress under their management.—Particulars for the use of this patent, whether by license or otherwise, to be obtained at the office, No. 3, Par-liament-street; or at the works, Whitehall-wharf, Cannon-row.

THE BOG MINES, SHROPSHIRE.

[FROM A CORRESPONDENT.]

These celebrated mines are situated in the parishes of Westaton and Worthen, in the county of Salop, about sixteen miles west of Shrewsbury; they have been worked at different periods for upwards of a century, and have produced an amazing quan-tity of ore. The present company commenced working them about thirteen years ago, and have erected very powerful engines, and every other requisite machinery for the working and draining of the mines. The great Bog vein has been wrought to the depth of 200 fathoms, and is drained by a 70-inch cylinder engine, on the most approved Cornish principle, pumping into an adit level 324 fathoms below the surface, and is calculated to drain the mine for about sixty fathoms deeper. This vein has been one of the most productive in England. In the present bottom level, 14 fathoms below the adit, a very fine course of ore has been met with, equal, if not better, than any thing ever yet seen in the mine, and the character of the vein has every appearance of bearing to a great depth.

The Pennerley Mine is situated about three quarters of a mile to the north of the Bog vein, and consists of four veins bearing north east by south west, and will fall into the Bog vein, about 1200 yards to the west of the present engine-shaft. These veins are intersected by an east and west vein, and where they cross immense bodies of ore have been found. The water from this mine is drained by the Bog engine, although three-quarters of a mile distant, which is a strong presumption that the veins will bear ore for the whole distance, and to a great depth. This mine was worked to the depth of sixty fathoms under the adit level, which is 124 fathoms from the surface, and great quantities of ore were raised to this depth, but, in conse-quence of the shaft having been sunk through the vein, and the vein dipping rather rapidly from it, it became very expensive to work, and was suspended about five years ago, in order to sink a shaft from the surface to win the ore to a much greater depth. This shaft has been sunk to the depth of 160 fathoms from the surface, or 100 fathoms under the adit level, and a 36-inch winding engine has been erected.

A level has been driven at the depth of eighty fathoms below the adit, which has cut the east and west vein, and, driving along this vein, the first Pennerley vein has been met with, containing a splendid course of ore; the level is still driving, to cut the other three Pennerley veins, and there can be no doubt of their producing large quantities of ore at this depth, as they were very productive above. A level is also driving at the bottom of the mine, which is 120 fathoms below the adit level, and it is daily expected to cut the first Pennerley vein; there is then about 100 fathoms in depth of the veins laid open for immediate working, and which are wholly un-wrought. Crone's mine is situated about three-quarters of a mile to the north of Pennerley, and was first discovered about three years ago, near the summit of a high hill; it was worked to the depth of twenty fathoms by an adit level, and con-tained ore about a yard wide, and about four tons were taken out to that depth. An engine shaft has been sunk thirty fathoms under the adit; an engine has been erected, and a cross-cut is now driving towards the vein, to win this mine to a greater depth, and there is every probability of this making one of the most pro-ductive mines in this neighbourhood. A little distance from the mines there are veins for the smelting of the ores, and nearly adjoining a colliery has been opened out for the supply of the smelting works and the mine engines with coal; three seams of excellent coal have been already won, and all the requisite machinery erected at an expense of about £6000, and the colliery is now in full course of work-ing, and capable of supplying an immense quantity of coal. The mines, colliery, and smelting works are held under leases, about fourteen years of which are unex-pired. Taking the whole together, it is one of the most complete establishments in the kingdom, and holds out great promise to the adventurers. These mines, which are necessarily on a large scale, from their depth of bearing, the size and pro-fusion of the veins must have cost in surface work, machinery, sinking shafts, &c., to their present depth, full £40,000, and are held in equal moieties by the great house of Walker, Parker, and Co., and Mr. Cross, wine and spirit merchant, Chester, under the sole management of Mr. W. Jones, Mining Office, Chester, and the whole of the capital expended may be considered as available in the high ground already sunk for and drained, with a fair chance of ten times its amount. There is scarcely an instance to be found where such an immense capital has been brought into mining by individuals, and promising, as the mines now are, their hoped for re-turn, and still, in the arrangements for their future profitable working.

SMOKE NUISANCE.—We are glad to find the attention of the legislature is, at length, about being directed to the baneful effects, and the intolerable nuisance, arising from the numerous furnaces used in various manufactories in and near the metropolis. With this view, Mr. Mackinnon has given no-tice of his intention on Tuesday, the 6th of June, to move the appointment of a select committee, to consider and report on the best means for its entire prevention; of the practicability of the smoke nuisance being abolished, we need only refer to what has been achieved at Manchester, Leeds, Birming-ham, and other places, through the vigilance of the authorities in the enforce-ment of local enactments.

ANGLO-AMERICAN GOLD MINING COMPANY.—The case, Harrison v. Heathorn, which has been so long standing over, was decided yesterday, in the Court of Common Pleas, when the Lord Chief Justice gave judgment.—The action was brought to recover money advanced on behalf of the Anglo-American Gold Mining Company, of which the defendant was alleged to be a shareholder and director. The jury found the verdict for the plaintiff.—A rule nisi was subsequently granted, on the grounds: first, that the defendant was not a shareholder; secondly, that, supposing he was a shareholder, he was not to be bound by the acts of other shareholders in which he had taken no part; and, thirdly, that the company was illegal. With respect to the first point, the Court thought there was sufficient evidence to justify the jury in finding a verdict for the plaintiff, inasmuch as the defendant, by his conduct, had ad-mitted that he was a shareholder. The next question was, whether, being a shareholder, the other partners had authority to enter into an agreement, which formed the basis of this action, and was for the advance of money, by the plaintiff, to make up certain bills, drawn in America by the agent of the company; the Court, also on that point, thought the evidence sufficient to show that the acts of the partners had been sanctioned by the defendant; and the bills being drawn for, and on behalf of, the company, it was bound to pro-vide for the payment of them. And, with regard to the last point, the Court was of opinion there was no evidence to shake the legality of the company; and that, therefore, on all the disputed grounds, the rule must be discharged. —Rule discharged, accordingly.

BUBBLE COMPANIES.—In the House of Commons, on Tuesday evening, Mr. Labouchere inquired of Mr. Gladstone, the President of the Board of Trade, whether it was not the intention of Government to adopt some mea-sures with respect to bubble speculations, and especially with regard to in-surance companies?—In answer to which, the right hon. gentleman said, that it certainly was their intention, and that the select committee of 1841, relating to such companies, would be revived.

DEVONPORT PIER COMPANY.—In the Vice-Chancellor's Court, yesterday, a case of rather a novel character was heard. It appeared that Mr. Tyrell, the solicitor to the company, was an incumbrancer on the property to a large amount, and there were two incumbrancers besides; the company's property having been put up for sale, only £8,000, were offered for it, and Mr. Tyrell, finding that, if sold by auction, a very inadequate price would be obtained, and his security much injured, entered into an arrangement for the purchase of the property for the sum of £9,000, subject to the two incumbrances.—A question, however, as to the legality of this transaction arose, the plaintiffs being directors of a public company, stood in the character of trustees for the public, and Mr. Tyrell, as solicitor to the company, was placed in the position of purchasing from his own client—a proceeding never sanctioned by a court of equity; they, therefore, came before the court, that the defendant might have a title to the property under the sanction of the decree.—His Honour deemed a specific performance, and left it to the Master to settle the consequences.

TYPE-ELECTRO-MAGNETIC TELEGRAPH.—The *Gazette des Postes* of Frankfort announces that an Englishman, named Varley, residing at Wan-borne, has invented a type-electro-magnetic telegraph, by which news may be transmitted, with the greatest rapidity, from one place to another—and which, at the same time, fixes the impression on paper, in the exact manner as by a printing press and types.

MEETINGS OF SCIENTIFIC BODIES.

IN THE ENSUING WEEK.

SOCIETY.	PLACE OF MEETING.	DAY.	HOUR.
Royal Botanical	Regent's-park	Saturday	4 P.M.
British Architects	16, Grosvenor-street	Monday	8 P.M.
Medical	Bolt-court, Fleet-street	Monday	8 P.M.
Civil Engineers	25, Great George-street	Tuesday	8½ P.M.
Society of Arts	Adelphi	Wednesday	7½ P.M.
Zoological	17, Pall-mall	Thursday	3 P.M.
Royal	Somerset House	Thursday	8½ P.M.
Antiquaries	Somerset House	Thursday	8 P.M.
Royal Institution	Albemarle-street	Friday	8 P.M.
Botanical	30, Bedford-st., Cov.-gdn.	Friday	8 P.M.
Mathematical	Crispin-street, Spitalfields	Saturday	8 P.M.

PUBLIC COMPANIES.

	MEETINGS.		
Ionian Bank	Guildhall Coffee-house	May 29	1.
Peninsula and Oriental Steam Co.	Offices, St. Mary Axe	30	1.
New Zealand Company	Broad-street-buildings	30	1.
Horse Bay Pier Company	King's Head, Poultry	30	2.
Hungerford Market Company	Offices, Villiers'-street	30	3.
Cornubian Mining Company	44, Finsbury-square	31	2.
Cambrian Iron and Spelter Co.	Offices, Moorgate-street	31	11.
Sheffield, Ashton-under-Lyne, &c., R.	Albion Hotel, Manchester	31	—
Cromford Canal Company	Temple Hotel, Matlock	31	—
Hammersmith bridge Company	Crown and Anchor Tavern	June 1	1.
Waterloo Bridge Company	Crown and Anchor	1	12.
Surrey Iron Railway	Spread Eagle, Wandsworth	1	11.
Royal Polytechnic Institution Co.	Cavendish-square	5	1.
Bank of Australia	Office, Moorgate-street	5	1.
Croydon Canal Company	George and Vulture, Cornhill	6	10.
Limerick Railway and Dock Co.	9, Old Jury Chambers, London	7	1.
Regent Canal Company	City-road Basin	7	—
Alliance British & Foreign Life Co.	Office, Bartholomew-lane	7	12.
Guardian Assurance Company	Office, Lombard-street	7	11.
Colonial Society	St. James's-square	7	2.
London and Blackwall Railway	London Tavern	8	—
Deptford and Bermondsey Gas Co.	London Tavern	9	12-1.
Kent Consolidated Mining Co.	26, Albion-street, Lewis	10	12.
Bank of British North America	Offices, St. Helen's place	13	12-1.
Mexican and South American Co.	9, New Broad street	14	1.
National Floating Breakwater Co.	Offices, 6., Mourgate-street	21	1.
Gas-Light and Coke Company	Office, New Bridge-street	22	11.
Mutual Life Assurance	Office, Old Jewry	July 22	—

DIVIDENDS.		
Imperial Brazilian Mining	5s. per share	Winchester-house	May 29.
Ang-o-Mexican Mint Co.	12s. per share	Offices, 9, New Broad-st.	June 1.
St. John del Rey Mining Co.	10s. per share	Offices, Tokenhouse-yard	1.

NOTICES TO CORRESPONDENTS.

The MINING JOURNAL *is regularly published about Two o'clock on Saturday after-noon, at the office, No. 26,* FLEET-STREET, *where it can always be obtained and there is no cause for irregularity in its supply, in town, other than neglect on the part of the agent through whom it is ordered; but, as respects its transmis-sion to country subscribers, the blame is shared with the Post-office authorities.*

MINING IN SPAIN.—The continuation of these papers is deferred from the absence of information on certain points, on which inquiries were necessarily instituted.

MR. THOMAS DEAKIN, Blaenavon.—We are somewhat in arrear with this gentle-man's correspondence—occasioned, in the first instance, by a desire to allow the questions in dispute between him and Mr. Murray to subside, or be discussed in a more amicable way than was at all possible, from the warmth with which each expressed their respective opinions at the time, and also from receiving more com-munications than the safe on our space would allow of inserting immediately on their receipt. In our present Number is a letter from Mr. Deakin, in which his practical experience is evidenced, and we shall be glad of all times to hear from him on subjects illustrating the practical and mechanical working of mines and collieries, to which subjects our columns are always open, while we are naturally anxious to avoid leading ourselves to acrimonious communications, or such as partake of a personal character.

ERRATUM.—In the leading article of last week, in quoting a paragraph from the *Cornwall Gazette*, it appeared that £500, and not £800, was expended monthly on the Linares Mines—the error being with our contemporary. We have been requested to explain the matter—the *latter* being the actual monthly expenditure —which we willingly do; while other points treated upon in the letter of our cor-respondent he must excuse us entering into.

More extensive premises than those lately occupied being found necessary, the establishment of the *Mining Journal* is REMOVED TO 26, FLEET-STREET (opposite St. Dunstan's Church).

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, MAY 27, 1843.

*** Parties desirous of ordering the *Mining Journal*, can do so, either direct to the office, or through any newsvender or bookseller in town or country. No-tices of irregularity in its delivery are requested to be forwarded to the office wherever every endeavour will be made to rectify the cause of complaint.

Again are we under the necessity of inflicting upon our readers another article on the Talacre Coal and Iron Company; and, while we regret that our space should be occupied with matter of interest comparatively insignificant, yet we are disposed to believe they will bear with us, and feel, as we do, that the task, however irksome, is one necessarily imposed, of giving publicity to the proceedings, both in the Court of Aldermen, and in the Court of Queen's Bench, in Ireland, both of which affect so seriously the character of Mr. Alderman THOMAS WOOD. A knowledge of the proceedings is, indeed, necessary, to enable the public to judge of the code adopted by the former; while, in the latter, there is much to instruct.

As an introduction to the subject matter under consideration, it may be well to take Mr. Ald. T. WOOD'S version of the formation of the company, and the respectability of his coadjutors, and place alongside the representations of counsel, in the case "HOWARD v. SHAW," to which we propose appending such further observations as we consider pertain to the matter, with the view of enlightening the Court of Aldermen and Livery of London—so that there may be "no mistake" as to the character of the worthy Alderman who would clothe himself in the robes of mayoralty, and take prece-dence of his fellow citizens, as one on whom should devolve the representation of the civic wisdom, the *integrity*, and the commer-cial interests, as well as the legal lore, of the City of London—the pride of which rests, we are proud to say, on its commercial inte-grity, as well as its wealth. The following may, in the opinion of some parties, require explanation:—

ALD. T. WOOD'S VERSION.—[EXTRACT].

The members of that association were as respectable as could be found: one of the gentlemen, Thomas Pottinger, was, at the time, a captain in the army, who had since been raised to the rank of a major—he was brother to Sir Henry Pot-tinger, a name which it was only necessary to repeat to be respected; another gentleman was Mr. John Spencer, related to Earl Spencer, who held an official ap-pointment under the government; Mr. Lawson was a gentleman of large pro-perty in Ireland. He thought it was needless to say one word respecting the respectability of those parties.—*Times*, May 13.

MR. PITCHFORTH'S (R.C.) STATEMENT—[EXTRACT].

In the year 1840, a certain party made their appearance in a remote part of Flintshire; and the leading person in that party was Alderman Thomas Wood, an alderman of London, a high sheriff, and also an attorney; Warwick Weston, a barrister, and to whose ostensible advice and assistance Mr. Wood had been solicitor; John Davis, also a barrister; Baker, a barrister; and Bagnall, who had been originally a coal-miner, but who had turned engineer.—*Freeman's Journal*, May 20.

On reflection, we feel it unnecessary to occupy space by further illustration; but, as we have ever adopted one line, we we now ob-serve it; and, that "no mistake" may arise, or that it should be said we were ruined according to circumstances, we extract the following from the *Journal* of Sept. 24, 1842, p. 308:—

> The object which we had in view is achieved; the attention of our fellow citizens has been directed to the charges we have so often alluded to; Mr. Ald. T. Wood; and nothing but an inquiry into their accuracy can satisfy even the worthy Alderman, who, although he calls himself a professional man, knows not, as well we do—that not one word which has appeared in the *Mining Journal*, relating to his conduct, is might but fact. We feel called upon to justify these remarks, by a brief recapitu-lation of the charges; but, in so doing, shall treat the subject as tenderly as possi-ble—while we have to express our confidence, as well as power, to prove, before any committee which may be appointed, or in any court in which the inquiry may be instituted, that each of the many charges can be fully substantiated.
>
> In evidence of our desire to deal fairly with the worthy Alderman, we applied to that gentleman for a copy of the affidavits filed on the behalf in the Court of Queen's Bench, upon the application of Messrs. Champernowne, Taylor, and Shandforth, "to compel Mr. Wood, as attorney, to deliver up papers in the hands of his client, and also to answer the motion of the affidavits, which are said to contain the rule, and also to answer the motion of the affidavits, which are said to charge fraud and misrepresentation in his professional conduct," but with which the worthy Alderman declined to furnish us. To avoid mistake, we have been favoured with Lord Chief Justice Denman's words on pronouncing judgment, in the course of which, it will be remembered, he made use of the following expressions:—"The which, it will be remembered, he made use of the following expressions:—"The whole of this matter appears so suspicious, and, we must add, so incorrect, that Mr. Wood has no right to complain of the rule being moved for to those who have soli-cited it to bring to investigation of the rule being moved for to those who have soli-cited it to bring to investigation of the case which he was solicitor to the company of which he himself is a member." It is unnecessary here to recapitulate the long

ment, and, therefore, we proceed to the case on which our observations have been founded :—

The Tolaveo Coal and Iron Company was formed with a nominal capital of 300,000*l.* —then divided : 3000 proprietors' shares, of 50*l.* each, representing 150,000*l.*; and 20,000 economisers' debentures, of 6*l.* per share, or 120,000*l.*—by Mr. John Davis, of West Cork notoriety, Messrs. Baker and Levason, Mr. Alderman Thomas Wood, Mr. ex-Deputy Weston, and Alderman Hyndman and Hodges, of Dublin, with one or two others. The company was formed, the prospectus issued, the shares subscribed, and debentures taken up, before the property was really in the hands of the projectors, and for which the sum of 150,000*l.* was charged—which sum, by the preliminary arrangements, made between the respective parties, was to be divided, with a slight deduction, amongst the concoctors of the scheme. Mr. Ald. T. Wood was not only one of the vendors and purchasers of this valueless concern, at no exorbitant a sum, but took upon himself the offices of trustee, chairman, director, and solicitor—thus precluding the possibility of any doubts arising as to his guilty knowledge and participation in the fraud. We believe it to be true that he did not, in the end, take to his quota of the free shares, but he is charged with being a party to their appropriation to himself. We have heard that he had them in his possession when in Dublin—that they were subsequently placed in the hands of Mr. Weston, jun., the secretary—and only given up when the fraud was detected.

One would suppose that it was unnecessary to say more; but it is only due to ourselves to state, that we have, moreover, addressed the Court of Aldermen, offering to give evidence—we have put ourselves in communication with the worthy Alderman, but to no effect—we have requested copy of evidence afforded, without receiving a reply, except through the courtesy of the LORD MAYOR, acknowledging the communication; and, therefore, nothing now remains for us to do, but to impress on the Livery of London that they should, on the day of election of Lord Mayor (June 24), be at their posts, and, by their voices—despite aldermanic influence, and legal acumen—express their determination that the Chief Magistrate of the City of London shall be "*sans peur et sans reproche.*"

Our good-natured contemporary, the *Cornwall Gazette*, will not leave us alone—and we bid him welcome, in thus boldly coming forward to meet, in fair discussion, the subject of "Mining in Spain;" although time will not permit us, this week, to entertain the subject, in such a manner, or at such length, as we might be otherwise disposed to. The "innocence" which we attributed to our contemporary is further developed by the following paragraph in the article to which our attention is drawn :—"Again, we are told that the mines of Linares are raising daily sixteen tons of copper ore, of 20 to 25 per cent. produce.—Where is it sent to be smelted?"

We will then edify him on this point; there are at the mines in question smelting-furnaces; there is, moreover, ore at surface, to the amount of 30,000*l.* and upwards, as we are assured, by reports on which *we* are induced to place some reliance. With reference to the Virgen del Carmen mines, we are ready to acknowledge ourselves "innocent" as to the locality, while the letter of a correspondent—in our columns of to-day—will, perhaps, explain the error into which we may have fallen, in common with others. The reference made to the Parliamentary paper, as to the exports of copper ore from Spain, is puerile, and does not at all bear upon the question. One word more for ourselves—

Most earnest are we in our support of our mines at home, but we will not disguise the truth, when we say that if mineral riches, such as have been represented to us, are to be found in Spain, we would rather see English capital embarked, and returns made, than that the wealth (if acquired) should go into other pockets, to the prejudice of our own country. While we profess to be the friend of the miner at home, we are, at the same time, not insensible to the mining interests abroad.

The decree of the CHANCELLOR, in Dublin, in the case of the "West Cork Mining Company," appears to us to be one of the most consistent character which we have had to record, and, therefore, merits a passing notice, if not a prominent feature in our columns. Let us see as to the facts. A mineral property worth, according to the survey, or estimate, about 20,000*l.*, is sold to the company by JOSEPH PIKE (a queer *fish*), at the sum of 165,000*l.*, and certain parties in London are weak enough to take the bait, whereby they are gulled to such amount. After waiting some two or three years, we find that the decision of the LORD CHANCELLOR—on the suit instituted by the representatives or executors under the will of the late Lord AUDLEY—is, that the balance of the purchase-money (being 60,000*l.* and upwards) should be paid to the estate by the company; but the LORD CHANCELLOR very properly provides that such amount shall be paid out of the *property* of the company, and not be taken from the personal property of the shareholders.

Here we consider that a main and important point arises—and for which we give credit to the learned Judge in the Chancery Court—for, inasmuch that the *property* of the company may be considered as nothing, the individual shareholders are not subjected to the payment of the amount of the decree, and thus the decision is of little or no avail, as it very properly affects only the *property* of the company. We congratulate the shareholders on this decision, because it at once releases them from individual responsibility; while we are given to understand that JOSEPH PIKE, some time since, managed, with certain parties, to exact cash, as "hush money," by way of "undertaking" to exclude them from the effect of the decree! We merely notice the matter in our present Number, as we are not in possession of the entire facts. We hope, however, to be in a different position next week.

EXPORTATION OF COPPER.

Quantity of copper exported from Great Britain, *year* ending Jan. 5, 1843 :

	tons.		tons.
France	2750	Italy	600
East Indies	1650	Belgium	450
Holland	1010	Germany	640
United States	905	Other ports	1410
Total		12,400 tons.	

One-half of which was British produce and the other half foreign ores.

SAFETY RAILWAY CARRIAGE.

At the Society of Arts, on Wednesday evening last, a paper was read by Mr. Whishaw (the secretary), describing an invention of J. Lee, Esq., F.S.A., for the prevention of railway carriages running off the rails in case of accidents, the breaking of axles, &c. The axles in this improved carriage are made in two parts, connected by a strong collar in the centre, and so arranged, that should one-half break, it may be easily removed, and another substituted; the wheels are also mounted on extra bearings, so that, in the event of the axles entirely breaking away, the carriage will still run safely. Another important improvement is the application of a powerful break to every wheel, acting not only on the periphery of the wheel, but on the rail also; these compound breaks can be applied with facility in four different ways—by the buffers of the carriages in case of collision, acting on cranks and rods; by a lever applied by the driver; by a windlass acting on a screw, under the control of the guard; and by a continuous steam-pipe running through the train with universal steam-pipe joints, between each carriage, and by a short branch projecting under each, acting upon every series of breaks, the engine-driver can apply them instantaneously, by turning on the steam, and by which application the hinder carriage is stopped first, thus preventing the carriages from running into each other. By the application of checks corresponding with each wheel, shod with iron, the possibility of running off the rails is prevented, even should all the axles and wheels be dashed to pieces in one general ruin, as such carriage would then become a sledge, and would soon be stopped by the friction.

MINERS OF FLINTSHIRE.—*(From a correspondent.)*—The Mold Mines, which have been for many years of much consideration and importance, both as a source of profit to the capitalist and employment to the population of the district, we are glad to say are progressing most favourably. In the Pant-y-Mwyn Mines, a variety of extensive works have been carried on with spirit; a new locker of large size has been supplied to Taylor's engine, which has undergone complete repair, many of its parts having been renewed; new pit-work has been fixed in the most substantial manner; a new changing-house has been erected with steam drying-table, and the whole placed in a highly efficient state for carrying the mine to greater depths and extending the levels. The produce now averages 350 tons per month, and, from the appearance, there is every indication of an increase and improvement in a short time.

CHEMICAL SEPARATIONS BY SULPHUROUS ACID.

Sulphurous acid and the alkaline sulphites have long been employed by M. P. Berthier, in separation of the earths and metals when in a state of combination with each other, and he has shown that, by means of the former acid, oxides of zirconium and titanium are easily procured perfectly pure, chrome separated from iron, alumina from glucina, yttria, &c., and the earths of the more delicate metals separated in a perfectly pure state from this acid, in which all of them, more or less, are soluble with or without heat, the precipitations being principally effected by the salts of ammonia. The following are some of the processes of separation which he has effected by the above means :

Alumina and Glucina.—These two earths are found together in the emerald and in some other minerals, and it is often necessary to separate them to obtain pure glucina. If both have been dissolved in sulphuric acid, it may first be freed from the greater portion of the alumina by bringing the latter to a state of alum, by the addition of a sufficient quantity of sulphate of ammonia to the concentrated solution; after which the liquor is decanted and diluted, an excess of sulphite of ammonia is added, and it is boiled until the disengagement of sulphurous acid ceases; the alumina is then entirely precipitated, and the glucinum remains alone in the solution, from which it is afterwards precipitated by ammonia. Or, in place of this, the two earths may be precipitated by ammonia, and re-dissolved while moist in sulphurous acid, which dissolves both; and the solution must be boiled until the alumina is completely separated.

Alumina and Magnesia.—Magnesia may be separated from alumina in the same way as glucinum.

Yttria and Glucinum, Cerium and Glucinum.—Yttria and cerium may be separated from glucinum in the same way as aluminum. In proceeding thus, a considerable quantity of glucinum has been found in a sample of yttria preserved in the laboratory of the *Ecole des Mines*, as having been extracted from a gadolinite. It is now known that certain gadolinites contain glucinum.

Alumina or Yttria and Iron.—Sulphite of ammonia is added to the solution, or else the humid mixture of the hydrates is treated with sulphurous acid. By boiling, the liquor, which was at first of a brown-red colour, however small the proportion of iron, is decoloured, and afterwards allows all the alumina or yttria to deposit, and the iron alone remains in solution. But, in filtering it, some care is necessary, because the action of the air may determine the formation of an ochrey deposit, which would soil the earth. The solution is boiled in a vessel with a narrow neck; then, when no more sulphurous acid is disengaged, this vessel is nearly filled with boiling water and corked—the liquor is poured on a filter; when it is quite cold it is replaced by boiling water, and the filtration and washing are thus finished. If the iron contained a certain quantity of phosphoric acid, this acid would be carried away by the earth. But it would not be the same with arsenic acid.

Alumina or Yttria and Manganese, Cobalt or Nickel.—Sulphite of ammonia is added to the solution and boiled; the earths are precipitated alone.

Zirconium or Titanic Acid and Iron, &c.—To purify a precipitate of zirconium or titanic acid, which contains a small quantity of acid of iron, the direct action of sulphurous acid cannot be employed, because this acid dissolves only a very small portion of the precipitate, and does not separate the whole of the iron. The iron must first be brought to the state of protosulphuret in the ordinary manner, or the action of sulphite of ammonia must be employed, which is much more convenient. For this the precipitate is dissolved in muriatic acid, the solution is neutralized as exactly as possible by ammonia, sulphite of ammonia is added, it is boiled until no longer turbid, and is filtered with the proper precautions. All the iron remains in the liquor, which retains neither zirconium nor titanium.

Uranium and Iron, Manganese, Cobalt, Nickel, or Zinc.—The uranium is separated from all these metals by boiling the solution, after having added to it sulphite of ammonia. The iron might also be separated from it, but nothing else, by precipitating both metals by an alkaline carbonate, redissolving the precipitate in sulphurous acid and boiling; all the iron would remain in the liquor. If the uranium contained only very small quantities of manganese, cobalt, nickel, or zinc, these metals would likewise be separated from it in the same manner, and would remain in solution.

Chrome and Iron.—To separate these two metals from each other, they are precipitated by ammonia or carbonate of ammonia, and the humid precipitate is treated by a slight excess of sulphurous acid; all the iron is dissolved, as well as a certain quantity of chrome, and the remainder of the latter metal is converted into pure subsulphite. The solution is boiled until decoloured, and it then contains no more iron; in order afterwards to precipitate this metal from it, the sulphurous acid is driven off, either by means of sulphuric acid, or by means of nitro-muriatic acid, and an alkali or an alkaline carbonate is afterwards added to it, or else, without decomposing the sulphite, the iron is precipitated by an alkaline hydro-sulphate. When a solution of chrome contains at the same time a sufficient quantity of alumina, all the oxide of chrome is carried away by this earth when it is precipitated by sulphite of ammonia. Hence we have a means of separating chrome from iron, manganese, &c. The metals being dissolved, any solution of alumina—alum, for example—is added to the liquor, then sulphite of ammonia is poured in, and it is boiled until it is no longer turbid; it is filtered, and if it still retains its green tint, alum and sulphite of ammonia, &c., are again added to it. The precipitate contains all the chrome and all the alumina, without any mixture of other oxides; by treating it with caustic potassa, without heat, it is entirely dissolved, but the solution abandons the chrome at the boiling heat, and alumina alone remains.

Phosphate of Iron.—Dissolve in hydro-chloric acid, add to the liquor sulphurous acid, sulphite of ammonia, and a certain quantity of alum, and the alumina is precipitated, taking with it all the phosphoric acid. If arsenic be present, it will entirely remain in solution.

Copper and Iron, Manganese, Cobalt, Nickel, or Zinc.—By adding an excess of sulphite of ammonia to the solution of all these metals, and by boiling it, the copper is precipitated alone in the state of red subsulphite. This means might especially be employed in the analysis of brass; after the copper is separated, the zinc is precipitated by a hydrosulphate, &c.

Phosphate or Arseniate of Copper.—If these salts be dissolved in hydro-chloric acid, and if the solution be boiled with sulphite of ammonia, the copper is precipitated in the state of red sulphite, and only a very small quantity remains in the liquor.

Phosphate and Arseniate of Lead might be analysed in the same manner after having been dissolved in nitric acid.

Tin and Iron.—Dissolve in hydrochloric acid, dilute with water, neutralise by ammonia, and add sulphite of ammonia. All the tin is precipitated, and the iron alone remains in the liquor.

Tin and Antimony.—Both metals being dissolved in concentrated hydro-chloric acid, tartaric acid is added to the solution, it is diluted with water, sulphite of ammonia is poured in, and it is boiled; the tin is precipitated, and the antimony remains dissolved.

Gold and Copper.—Gold might be separated from copper by means of sulphurous acid. By boiling the liquor, the gold would collect in clots, sulphurous acid would be disengaged, and the salt of copper would remain intact, only rendered rather acid, in consequence of the formation of a certain quantity of sulphuric acid.

Gold and Platinum.—The same means may be applied to the analysis of an alloy of gold and platinum.

GOLD MINES IN SIBERIA.

Before the year 1830, no gold was found in this part of Siberia, and, in fact, very little to the east of the Ural. In that year, a merchant at Tomsk, of the name of *Popof*, who was already possessed of a very considerable fortune, heard accidentally that a deserter, concealed in the woods, 150 versts east of the town, had found gold in the sands. He was an old man, and had a daughter, through whose means Popof discovered the place where her father had been digging, and immediately got a grant of the district. At first he was not very successful, the produce being only about half a solotnik to 100 pods of sand washed. He then changed the theatre of his speculations, and removed his establishment to the northward, 1000 versts north of Tomsk, and north-west of Barnaul. Here he found gold, but not in great quantities; and as the soil there is constantly frozen, the expense was very great; and all the conveniencies of life extremely dear, so however, and few workmen to be obtained. After having spent in all 60,000 roubles, he returned to his former field of operations, and, at the time of his death, in 1832, had succeeded in obtaining four or five pods of gold annually. But, before he did this, he had searched to 200 different spots in the neighbourhood of Tomsk. A short time previous to his death, he is said to have lent to Mr. Antonshief, of whom we have spoken, 60,000 roubles to begin his researches with. About the same period, came a rich merchant from Ekaterinburg, of the name of Rimbaud, with a capital of 200,000 roubles to embark in the same speculation, and spent the whole of it without finding any gold. At last he fell in with a rich vein near the small river Kondratskik, of which Mr. Antonshief gained intelligence, and made his application for the ground, so as to deprive the other of his lawful property, after so much time and money had been thrown away, before he was lucky enough to hit upon the treasure. A lawsuit on the subject was the consequence; but Rimbaud, finding that his cause had too much protection, and that he should probably lose his action, saw there was nothing for it but coming to a compromise with him. The 200 rivet near which they had commenced operations, in about 100 versts in length; and they agreed to divide it. The speculation turned out well; the produce being a solotnik to the hundred pud, or double what Popof had found. After this they formed a company, together with several of the first personages at Petersburgh, as it is said the management, of course, being with the former, and the latter being what we call sleeping partners, except that their capital and influence, if required, made them very desirable associates. The Emperor is reported to have heard of this condescension, and to have hinted to some of the parties that it was contrary to law for them to be concerned in such an enterprise; and, in consequence, they sold their shares to Mr. Antonshief, who is now a millionaire.—*Colliard's Recollections of Siberia.*

INSTITUTION OF CIVIL ENGINEERS.

MAY 23.—The PRESIDENT in the chair.—Some interesting specimens of unburnt bricks from the Pyramids of Dashoor (Egypt) were exhibited by Mr. Newton. From the description by Mr. Perring, who brought them to England, it appeared that they were made from the alluvial soil of the valley of the Nile, mixed up with chopped straw; that they were made with cavities in the sides like the modern bricks, and that the interior of the Pyramids was formed of arches; the bricks composing them being either packed behind with pieces of flat pottery or cut away to radiate equally from the centre. There existed at Thebes some extensive ranges of arches of about twelve feet span, the bricks of which they were built bearing the name of Sesostris, and, consequently, they must have stood uninjured upwards of 3180 years; the arches were turned in concentric half-brick rings.

Captain Hancock produced a brass and cone of his improved axle, which had been used under an engine on the Southampton Railway, and had run upwards of 21,000 miles; the brass scarcely exhibited any signs of wear, while a brass of an axle of the old form, which had only run 8000 miles, was nearly one inch shorter than when it was first put on, besides having worn considerably into the journal and the box. He stated that the system was approved of by General Pasley, who would have been present to confirm the statement, but for an unavoidable visit to Spithead.

The first part was read of a paper by Mr. Mallet, M. Inst. C.E., "On the Action of Air and Water upon Cast and Wrought Iron and Steel;" but, as from its length, the second part was necessarily reserved until the next meeting, the whole will be noticed together.

The meeting was adjourned until Tuesday evening, May 30, when the following papers will be read :—The second part of a paper "On the Durability of Iron Ships, the Method of Preventing their Corrosion and becoming Foul, by the application of a Coating of Alloy of Zinc of Varnish, and a Poisonous Paint," by R. Mallet, M. Inst. C.E.—"Description of an Improved Arrangement of a Surveying Instrument," by H. Carr, Grad. Inst. C.E.

EXPERIMENTS ON THE PROPERTIES OF METALS.

[We are indebted to our contemporary, the *Liverpool Albion*, for the following notice of a paper read by the author at the Polytechnic Society of that town.]

"An Account of Experiments on the Changes in Density and Crystalline Arrangement of Metals when Cast or Drawn through a Steel Plate, or Roller, and afterwards Annealed, under various Circumstances."—Mr. ADIE, in stating the object he had first in view at the commencement of his inquiry, he showed a thermo-electrical arrangement of four bars of bismuth combined alternately with four bars of antimony, capable, when heated at one extremity, of developing chemical action, which electrolised copper, in a sulphate of copper solution at 200° of Fahrenheit, at the rate of 22 grains per day, thus producing the total weight of the bars in 164 days, or 174 if the equivalents of the metals engaged be taken into consideration, while the battery, to all external appearance, had undergone little or no change. To produce this chemical effect, it was necessary that the bars be equally heated, so that one end had a temperature of 250° greater than the other. It was to ascertain if any change in density or mechanical arrangement of the particles of antimony and bismuth could be shown as an equivalent for the power which transfers oxidisable metals from pole to pole that the experiments commenced. To enter into details of their connection with thermo-electrical currents would be foreign to the present object, and he would confine himself to what he had found to be the invariable accompaniment of a long-continued unequal heating of the bars. When a bar of bismuth was soldered to another of antimony, with pure bismuth for the solder, and the two were heated for a length of time, in rending the joint asunder, a minute disintegration of the bismuth, or soft metal, at its surface of contact with the antimony was observable. The alteration was so slow that it required forty days constant unequal heating, the joint being always near the melting heat of bismuth before the change was distinctly visible. With 150 days action he found the joint to separate with a slight touch, and a very small quantity of the bismuth was removed in a pulverent form by gentle rubbing. While this fraction of a grain of metal was disintegrating at the heated surface of contact of the two bars, a force had been developed sufficient to destroy 7 oz. of copper. As the generating battery weighed 8 oz., it was evident, from the rate given, that it was capable of depositing twice its own weight in a year, under a continued current of heat. He had employed three methods for examining the change of metals—first, by the fractured surfaces; second, by their specific gravities taken with a delicate balance—suspending them by a horse hair, and weighing them in air and distilled water at a uniform temperature; and third, by the galvanometer. As the application of the third mode of measuring changes in metals might be unknown to some of the members, he might state it had been shown that, if we hammer a piece of platina wire, connect it to the extremities of the galvanometer wires, and then apply heat near the hardened part, a thermo-electric current was indicated by the instrument. The deflection of the needle in this case was small; but if a slip of soft watch spring with a hardened portion in its centre be substituted for the platina wire, a far more energetic current was developed. The effect was only observed during the period of change in the temper of the steel, and this change in that metal was invariably accompanied by an alteration in specific gravity.—[The lecturer here showed the experiment with the galvanometer, the needle within which was suspended by a delicate hair; the effect stated was quite obvious—in the magnetic deflection on a brief application of flame to the hardened part of the watch spring. The same experiment was more fully shown at the conclusion of the lecture, and excited much attention.]—The experiment appeared to him to be of much importance in connecting changes of density in metals with the generation on it of thermo-electrical currents. With a number of similar experiments on other metals (which he afterwards gave) depended the application of the galvanometer as a delicate test to indicate that a change in density was going on to a slip of metal. He then gave the examinations he had made of each of the metals separately. How far the results were new he was not sufficiently acquainted with the labours of others in the same field to decide; but, if any of them should serve as guides in the practical uses to which metals were so extensively applied, his object would be fully attained. Antimony, bismuth, and zinc are (he continued) distinguished among metals for their highly crystalline or lamellated texture. With them we can readily develope what is technically termed large and small grains in their most varied forms, and, consequently, any source of minute change in texture. Bars of antimony cast in a cold mould present a very short steel-like grain at the low end of the mould, which gradually increases in size toward the top. The obvious cause of this is the difference between the rates of cooling of the fluid metal at the two extremities. The top of the mould is always heated before the antimony flits it from the stream of metal passing down to form the bottom of the bar. The density at the top of the bar is 6·67; at the bottom 6·715. Here the metal of small grain is 1·67lb. or fully 2 per cent. specifically lighter than the large; but loss of density is not a necessary consequence of the small grain; for several pieces were melted and slowly cooled with a large grain, and their density taken, and again remelted and poured on a surface of dry ice, where they rapidly sank themselves; but the upper surface continues dry until the whole solidifies. Such pieces possess a very fine grain, but what is remarkable, their density is exactly the same under both methods of cooling, and the result differs entirely from what we find in the mould. He took great pains to verify, by repeated experiments, the loss of density in this metal at the lower part of the cast-bars in the cold mould, and invariably found the relative specific gravities already given. They could not be accounted for by a greater liability to porosity in one part than in another, for on breaking up some of the light specimens, not a single pore could be discovered. The chief difference between the two cases was, that in the mould the metal was cooled on all sides, while the pieces poured on ice had a large open surface to flow upon. The sudden cooling of the whole bounding surfaces of the bar, while the metal in the centre was yet fluid, in all probability occasioned the loss of density, for light specimens gained density by annealing. If this were done in a sand-bath, at a uniform temperature, with pieces of different specific gravities, the rate of gain was invariably greatest in those that were farthest from the natural density of the metal; so that the state of a light bar of antimony was very analogous to hard steel; both having their four bounding surfaces quickly cooled, they lost density, which was regained by annealing. In endeavouring to ascertain if long-continued heating would change the grain of this metal, he expected that light bars, with their density and grain in a strained and unnatural form, would be best adapted for the purpose, as they had been found sensitive to change in specific gravity; but before he could rely on any inferences drawn from apparent varieties of fracture, he found it necessary to examine bars cast with metal at different temperatures, in hot and cold moulds. From the appearance of these at various points, the operator might predict the nature of the fracture. Four bars were now placed side by side in a de-oxidating flame, and allowed to remain 120 days. The part enveloped in the flame was raised to the faintest degree of redness perceptible in the dark, so that the small grained portion must have approached nearly to the melting heat of the antimony for three months, yet after this action not the slightest alteration in the size of the grain could be discovered. An attempt to change the texture of the bar succeeded by another mode, for it amounted to a violent disruption of the parts, which were heated to near the melting point, and quickly cooled in water. At each succeeding process they lost specific gravity. One specimen, three times heated and cooled, lost 1·10th part of its density. This great change succeeding could only in part restore, for the fracture of the bar showed the lustre to have been shattered in every direction, with an unusual appearance in the centre.

(To be concluded in the next Number of the Journal.)

HAZLE RAILWAY.—On Monday last, this line of railway was opened for the conveyance of passengers; and, as no charge was made for that day, the carriages were literally crammed with persons, who were anxious to enjoy the luxury of a gratuitous ride. We are glad to learn that, although the trains went three times over the line during the day, no accident occurred

ORIGINAL CORRESPONDENCE.

MINING OPERATIONS IN SPAIN.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—In your leading article of last Saturday, and when speaking of the mines of Spain, you state that "the prospects of success there give rise to apprehensions on the part of those interested in the mines of this country, as well as of our Cornish contemporary, the *Cornwall Royal Gazette*, that the influx of ores arising from their import, in addition to those from the mines of Cuba and Chili, will materially affect the mining interests in this country," &c. Allow me, Sir, to assure you that these apprehensions are wholly unfounded. The Spaniards are too wide awake to allow their ore to be exported in its rough state. The exportation is, in fact, most rigidly prohibited, and that prohibition the Government would not dare to remove for obvious reasons; hence it has been necessary to construct smelting furnaces on the spot. The owners purchase the ore at the pit's mouth, and convey it to their establishments; these are doing well, although several, by the last accounts, are not in full work for the want of ore, more particularly in the district of Carthagena. There is, therefore, no fear of competition with our miners. In Carthagena they chiefly mine for lead, in which a proportion of silver is found, and, when extracted, it is sent to Marseilles, principally because the freight there is cheaper—say, ½ per cent.—whereas to England it is 1½. Two smelting-houses are established near Carthagena by Messrs. Pillet and Bruc, from Lyons, and as prosperous are their concerns, that Paris capitalists advance them money on account of their remittances of silver—it, in fact, sells better in France than here. As regards the story of the Virgin del Carmen mines, which, I believe, originated in a morning paper, it evidently arose out of an error—whether of the copyist or printer I do not presume to say—but a 0 too much was added, and that will make all the difference. W. W.

London, May 24.

(We are obliged to our correspondent, not only for the correction with reference to the Virgin del Carmen mines, but as relates to the export of ores. We are advised, and, we believe, on good authority, that ores are subjected to a duty of 5 per cent., but that the same may be exported with the usual charges applying to produce generally. The metallic copper, we are further given to understand, is free of any duty, while 22*l.* to 23*l.* per ton is imposed on that imported—hence the advanced price of 40*l.* per ton, obtained in Spain, for copper smelted on the spot.)

PROPOSED EXTENSION OF THE APPLICATION OF IRON.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—When your correspondent, "Chalyba," speaks of excavating streets, and making shops, &c., under his proposed roadway, he does not take well or sufficiently into account the existing obstructions which present themselves to such a scheme beneath the existing surface, nor can he have considered the expense of such a work. In many streets, the width of the road alone would make this an enormous, as to render all idea of execution absurd. The estimate of 15*s.* per square yard is very fallacious; for, not to mention the ironwork and fixing which would be required, in addition to the piston, the taking up of the present road ought certainly to be made a matter of estimate, for it would form a very large item, especially in large cities, where the traffic is great and constant. Although a well-wisher to the iron trade, from many motives I do not like to see schemes advanced which are impracticable, and which, instead of inducing a true attention to the subject, have a contrary effect.

Birmingham, May 24. ——— AN OLD SUBSCRIBER.

FUTILITY OF LEGISLATIVE ENACTMENTS IN THE PRESENT DEPRESSED STATE OF MINING.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—Being one of that class of her Majesty's subjects whose minds are said to be as dark and benighted as the coal mines in which they toil for their hard-earned pittance, I can but rejoice at any measure being brought forward by our legislature for the amelioration of such a degraded state and condition, and if, by their educational enactment, we shall be raised to share the same privileges as other citizens and subjects, why, then, the great moral change effected will be seen and felt—and, without doubt, duly appreciated—by that large class of the community; but, Sir, what avails Lord Ashley's bill to the mining population, or Sir J. Graham's to the manufacturing, whilst they have no work to do, or fund to eat? The state of things in the mining district of Wales is becoming desperate; the numbers of unemployed workmen, which is considerable, and others partially employed, with large families, their children are begging from house to house, and, being no labour to perform, are forming habits which all the Government measures and educational bills will never be able to counteract; and how void of truth are some of those statements brought before our legislative assembly by some of its members, in your *Journal* of last week, headed "Female Labour in Collieries!" In opposition to Mr. C. Bruce's motion, Mr. Ald. Thompson is represented as saying, that in South Wales, with which district he was connected, the employing females in mines and collieries was utterly unknown, and he believed that the people of that part of the country would submit to ten times the misery and distress they are now suffering under, rather than permit their wives and daughters to engage in such degrading labour. Now, Sir, I am no advocate for employing females in mines and collieries, but I am an advocate for the truth on all occasions. The worthy alderman must possess a very imperfect knowledge of the district with which he is connected; in one of those works in this said district it was my task to fill up the Government returns of females and children employed therein, and in that work, and in one department of that work—viz., the mining—there was nearly one hundred females employed, about sixty within the mine, and the others on the surface; within the last fortnight, it has been my painful duty, by order of my employers, to discharge a certain number of miners, amongst which were many robust females, performing some of the most arduous duties of a miner, such as blasting the ground away with powder, to which I have frequently been an eye witness; and one old miner in particular, with a large family, all girls, told me, if his three daughters, which he employed with him in the mine, were drawn out, the whole family must become inmates of the Union Poor House, as his own labour and exertions would not support them.

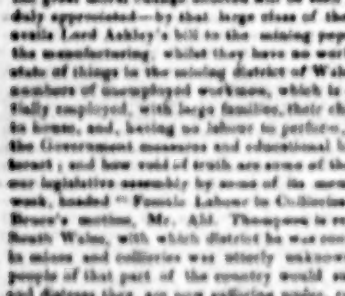
Aberpennay, May 22. ——— A SOUTH WALES COLLIER.

MINE VENTILATORS—MR. FOURNESS AND MR. MARTIN.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—Allow me, through the medium of your *Journal*, to present thanks to Mr. W. Fourness (of Leeds), for the admirable description of his "Barrel Chain Ventilator"—in your *Journal* of the 13th inst.—which, however, has quite astounded me, having been, as my friends well know, for a long time, trying experiments as to the application of the centrifugal and centripetal forces for the ventilation of mines; and having, about two months' since, completed a model of a machine for exhibition at the Falmouth Polytechnic—the principle of which machine is that of air flowing to the centre and escaping at the circumference. I have find, however, that, on this point, therein, perhaps, not as to the best mechanical form, Mr. Fourness has been before me. The principle itself is under that the "winnowing" machine, but the application of it, for the creation of a flow of air through a mine, may be considered to be novel—not by forcing, but by drawing, or by the flowing pressure of the air, to supply a permanent central vacuum. To Mr. Fourness the writer feels that he must award the merit of the first application—as far as the writer himself is concerned; but whether the application is in the same way, and the centrifugal force produced by the same means, is another question, which, of course, is determined until a drawing of the machines shall appear—Mr. Fourness's having, as he says, been in operation upwards of two years. Mr. Fourness may, therefore, very properly say of myself, as Newton said of Leibnitz and Hooke:—"Whether he had the notion from me, or invented it other me, in of no consequence, as several inventions have no rights."

Mine to my first experiment, made some months' since, in the presence of some friends—I never having before heard of any such results having been obtained by similar means or having been applied/attempted in any way, except the heating process, and a centrifugal (not a centripetal) blower—constructed by my late father, which is now commonly known.—Mr. Fourness will, doubtless, allow us how the whole thing constructed by him looks in calculation. Mine is proposed unfortunately that dimension, with values on both sides—found before the publication of his letter of the invention, of which we had not heard in the West. My model, as I say, was prepared for the Cornwall Polytechnic, the exhibition of which society it has awaited, and now awaits; but, on hearing of the late lamentable accidents in mines, I, some days since, wrote to the secretary of that body, to request that the committee would allow me, through your paper, to publish my plan, without being prevented from competing, in consequence of the fresh gilding of novelty being thus brushed away—another proof of the originality of my plan, but not in opposition to Mr. Fourness, if his be substantially the same, as, I fear, it is in principle. ALFRED T. J. MARTIN.



(The needle was blown out to the melting-pot in the course of this sketch, under the purpose of testing the principle.)

Moreton, May 15.

FOURNESS'S PLAN OF VENTILATING COAL MINES.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—In the letter of your correspondent, Mr. W. Fourness, in alluding to the consumption of coal being only 10 cwts. in twenty-four hours, in the furnaces used at the bottom of the coal-pits in the Newcastle district, and that small coal is used to forward the ventilation in a coal mine where the air has to traverse many miles round: why, it is preposterous to talk so. To keep up a proper draught round such an extent of working, will require five tons of coals mixed, big and small coal, in the twenty-four hours; but, then, he makes it appear, by some calculations, that, to clear a mine of a certain quantity of gas, 72 cwt. of such coal is necessary in the twenty-four hours; to clear such a mine, he seems to think that quantity would do it, but then comes the difficulty again—such a quantity as 72 cwt. in the twenty-four hours would set the sides of the pit on fire. Now, I have a furnace at work, and used for the purpose he is writing about, that would consume three times 72 cwt. of coal of the best quality, without doing any injury to the sides of the pit (that is, a pit that is properly walled with stone or brickwork), or even seriously incommoding the workmen in passing up and down the pit, for that is the way they go in and out daily, and scarcely any smoke is seen to discharge itself from the top of the pit—and neither Mr. C. W. Williams or Mr. Hall have been here; it depends upon the method used—the great secret is, to supply the fire with fuel, a small quantity at a time, with frequent replenishment, and such an arrangement as I speak of will clear the most fiery coal mine in the world—that is, as far as the draught can be conveyed to sweep the mine. Will Mr. Fourness inform us where his rotary drums are in use—at what fiery colliery, naming the colliery and county—and the extent of way the air has to traverse the colliery that it is in use at? because the difference in distance is all—the comparison will not do, between a small colliery, whose working distances from the pit are short, and such coal mines as the Northumberland collieries, and many others, whose extent of workings are many miles. Perhaps, the air in those old and very extensive workings would have to traverse more than ten miles, in zigzag directions, ere it reaches the furnace at the bottom of the pit. What does Mr. W. Fourness think of his rotary drum acurly at the top of a pit, to ventilate such a coal mine as that. He says, a furnace at the bottom of a pit is not to be depended upon; there is a "Fourness" not to be depended upon, but there are others in which the utmost confidence can be placed, in the most extensive colliery in the world.

Blencarn, May 16. ——— THOMAS DEAKIN.

CANNEL COAL IN SOUTH WALES.

TO THE EDITOR OF THE CAMBRIAN.

SIR,—Happening to visit the Royal Institution in your town a short time ago, I perceived specimens of that valuable coal called "cannel coal," from Pentelwodd, near Longhor. It had every appearance of the best sort of that mineral; and it is surprising, if to be found in any quantity, that the proprietors of lands, or some enterprising company, do not immediately attempt to work it, as that sort of coal is scarce and dear, and if brought from Pentelwodd, might be sold at a considerably less price than that brought from Lancashire. Your publication of this may attract the attention of some parties who are rather immediately interested in the subject, or some speculating company, to whom it might abundantly answer. VIATOR.

May 19.

SCIENTIFIC EDUCATION OF PRACTICAL MEN.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—Your columns have of late been occupied, rather more than enough, in the estimation of those of your readers I am acquainted with, by a knot of writers, who appear to delight in "running a muck" at everything that does not square with their own contracted knowledge, and stunted intellects. One of their notions is—that "scholastic knowledge," in the conducting of practical affairs, has an advantage over empirical knowledge, but the contrary; and, in your last publication, "A Workman" maintains that, it is easier to make a miner into a scholar, than a scholar into a miner. Such notions are extremely pernicious; the unchecked promulgation of them would make working men careless of advancing themselves from the empiricism of the workshop, or the mine. Of themselves—independent of their mind-withering influence—the notions, and the men who entertain them, are beneath contempt; and it is only on consideration of the one, that any man of common understanding would condescend to a discussion with the other.

The term "scholastic knowledge" is ambiguous, and in what sense the writers I allude to use it I cannot pretend to say; but I shall use the term as including all but empirical knowledge; and, if the writers in question use it in any other sense, they are, in addition to their folly, guilty of knavish sophistry. Assertions, such as your empirical correspondents deal in so largely, are confutable by facts, and by reasoning. To give anything like an adequate sample of the stupendous blunders of empirics, would be to occupy an entire *Journal*; a few modern instances must, therefore, suffice.

1.—"It is not many years since an attempt was made to establish a colliery at Bexhill, in Sussex. The appearance of thin seams, and shoots of fossil-wood, and worst coal, with some other indications, similar to what occur in the neighbourhood of the great coal-beds in the north of England, having led to the sinking of a shaft, and the erection of machinery on a scale of vast expense. Not less than 80,000*l.* are said to have been laid out on this project, which, it is almost needless to add, proved completely abortive—as every geologist would have at once declared it must."—*Herschel, Dis. Nat. Phil.* (45.)

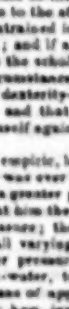
2.—"The smelting of iron requires the application of the most violent heat that can be raised, and is commonly performed in tall furnaces, urged by great iron bellows, driven by steam-engines. Instead of employing this power to force air into the furnace, through the intervention of the bellows, it was, on one occasion, attempted to employ the steam itself, in, apparently, a much less circuitous manner—viz., by directing the current of steam, in a violent blast, from the boiler at once into the fire. From one of the known ingredients of steam being a highly inflammable body, and the other that essential part of air that supports combustion, it was imagined that this would have the effect of increasing the fire to treble its fury; a lesson, it simply blew it out—a result, which a slight consideration of the laws of chemical combination, and the state in which the ingredient elements exist in steam, would have enabled any one to predict, without a trial."—*Ibid.*

3.—"Only sixteen years ago (it is in our own memory), a valuable estate in Durham was pronounced to be devoid of coal, 'because it was situated on the magnesian limestone;' and might have been said under this opinion, but that a geologist of celebrity (Dr. William Smith) showed the fallacy of the reasoning, reported favourably of the probability of finding good coal be obtained beneath the property, and advised the proprietors to work it. That estate is now the centre of a rich and well-explored mining tract, all situated beneath the magnesian limestone; and this was the fruit of scientific geology, not 'practical' coal viewing."—*Phillips's Geol.*, II. (266).

If the history of mining were honestly written, it would abound in such facts as this, and that mentioned by Herschel. I could furnish similar facts from my own knowledge; but considerations, personal to the parties concerned, prevent me.

4.—In the *Mining Journal* of Jan. 29, there is an engraving and a description of a patent steam-engine, to work on the expansive principle, by a method entirely different from that hitherto followed. According to the description by the patentee, Mr. Sims (a "practical man"), the engine is worked by two cylinders, placed one on the other—the under being four times the capacity of the upper one. A piston is fitted to each cylinder, and worked by one rod; and the working arrangement is—that the down-stroke shall be made by the steam acting with the full force on the small piston, and the upstroke merely by the expansive action of the steam that effected the down-stroke, on the large piston. Mr. Sims asserts that, by this method of taking advantage of the expansive action of steam, all "simple power" can be made "double power" engines, without any increased expenditure of steam; and that all "double power" engines, altered to his plan, "will effect a saving of very little short of one-half the fuel, to do the same work;" and he bases his assertion on the theory, that the small cylinder-full of steam expands in the large cylinder four times—in other words, becomes four times less powerful than it was in the small cylinder; and, therefore, that the action of the expanded steam, being so as now four times greater than that it acted on in its original bulk, the forces in the two conditions must be equal—that is, steam of 60lbs., acting on a piston of ten inches square, would exert a force equal to 600 lbs., and, expanded four times, acting on a piston of forty square inches, it would exert the same force of 600 lbs.

"Scholastic knowledge" would have led Mr. Sims to a very different conclusion, and would have the mortification of neglect and derision. Steam, by experiment, will not act to his large cylinders with any such force as he supposes. The elastic force of steam is in direct proportion to the steam's density, and is inverse proportion to the steam's bulk; so that the strong in Mr. Sims's expansive cylinder will become weaker and weaker as it expands; if it expand four times, it will lose three-fourths of its original force, and, instead of acting with a force of 3 lbs. per square inch, on the large piston, it will act with an ultimate force of only 750 lbs. per square inch—falling the dimensions above the mark. "Scholastic" believe that a vessel is greater than a part; but, according to Mr. Sims, a part is equal to a whole. However, to investigate this subject more particularly, suppose a cylinder, two feet diameter and twenty-four feet long (as shown in the margin), with a piston (P) working in it; that the piston has been urged down to A, by steam of 20 lbs.; and that at A the steam is left to continue the stroke to B, by expansion. The area of a piston two feet in diameter is 452·3893 inches; consequently, the piston in our example was driven to A by a force of 9047·7860 lbs., or rather more than four tons. Now, when the piston arrives at B, the bulk of the steam will be doubled; at C, trebled; at D, quadrupled. Therefore, by the law of Mariotte, the density of the steam, with the piston at B, C, and D, respectively, being one-half, one-third, and one-fourth, of the density it had at A, the force is in the same proportion—namely, at B, 4523 lbs.; at C, 3016 lbs.; at D, 2262 lbs. (neglecting fractions. This, though the supposed cylinder is of uniform diameter, is a demonstration of the power of a Sims-engine, having a top-cylinder of two feet, expansion cylinder of four feet, and a stroke of six feet; for I consider that, from a variety of obvious causes, the mean expansive force cannot exceed the minimum force here brought out; and how that will make a "single-power" engine equal to a "double-power," and a "double-power" engine, "altered to the principle," do the same work with half the fuel—how *one* ton is equal to *four* tons—is *mere*, certainly, than is within any "schoolman's" knowledge.



5.—Mr. W. West, of Fowey Consols, "one of our most indefatigable and talented Cornish engineers," (according to Mr. Sims, in *Mining Journal*, April 20) informs the world that he is about to erect an engine at Par Consols, with an 80-inch cylinder, and of 12-feet stroke; and asks Mr. Sims what he thinks of a 144-inch expansion cylinder being attached? He also expresses an unequivocal approval of Mr. Sims's patent.—What does Mr. West think would be the consequence of a steam-boat or factory engine working with a force of one in and one-quarter out?

6.—To make up half a dozen facts, take Henson's flying machine—one of the most stupendous freaks of empiricism that the world has heard of for many a long year.

So *for facts* go to confute the *chimneviser* and *bellraiser* (for argument they have *none*) of the writers I am opposing. I shall now subject them to the test of *reason*. "A Workman," in the last *Journal*, says, "All experience has proved that it is more difficult to make a miner of a scholar, than to make a scholar of a miner;" and, by way of backing his assertion, his letter has an epigraph, selected from some obscure author, to the same effect. But assertions are nothing; a man may assert anything he likes, provided it appears within reason, and not contradictory to obvious facts. "A Workman," however, has got beyond reason. He has no right to assert that *all* experience has proved what he asserts it to have proved; his own experience is not *all experience*; it is impossible that he can be acquainted with *all* the experiments that have been made to make scholars into miners, and the latter into scholars; therefore, his assertion is worth no more than the value his own experience gives it, which, in all probability, is very little. But reason repudiates, with scorn, the doctrine "A Workman," and his confutors, would establish. First, however, what is meant by the term "miner?" The term has a very confined, and a very extensive, signification; it designates the man who knows little more than the use of the drill and pick, as well as the man who scientifically or empirically understands the whole economy of a mine, and the man who stands midway in the knowledge. I shall use the term in its broadest signification. Well, then, the physical capacity being there, would not a scholar sooner learn to drill a hole, charge it, and put the shot out, and handle a pick; to fix a shore; to apply machinery to its various purposes, in the mine and out of it; to dress ores; to case a shaft with wood, masonry, or iron; to sink a shaft or drive a level through the worst ground; to ventilate, to have—would not a scholar sooner learn to do these, and similar things, than an ignorant miner would learn the principles of statics and dynamics? Would not a scholar sooner learn to assay; to master the demon gases of the mine; to recover metals carried away by acids, and disentangle metals from sulphur, at the same time preserving both—would not a scholar sooner possess himself of these branches of mining knowledge, than a miner would learn chemistry? Would not a scholar sooner learn to survey and map the "dark recesses of the mine," than "Pegging Bob" would learn decimal and logarithmic arithmetic, and trigonometry? But enough of interrogation. The common sense of any human being but an idiot, would decide the questions I have put, in favour of the scholar. The scholar would go to the work with a thorough knowledge of the natural laws—of immutable principles—and all he would have to learn would be the mere manual dexterity of applying them; but the miner would go to the study of statics, dynamics, chemistry, and trigonometry, with an untrained intellect, and ignorant of even the simple elements of those sciences; and if any man will say that, under such conditions, the miner would attain the scholar's knowledge, and the power of applying it in every variety of circumstances, sooner than the scholar would attain the miner's simple manual dexterity—I must say, either, that the experience of mankind is nothing, and that we are every day acting on false axioms; or that, he who sets himself against that experience is no better than a slavering bedlamite.

To show the helplessness of the empiric, let us place him in a condition totally opposite to any conditions he was ever in before. Suppose a man, who had never seen water-pipes under a greater pressure than is due to 100 feet of head, and that practice had taught him the necessary strength of metal for pipes of various bores, for that pressure; then, suppose him required to state the strength of metal for pipes, all varying from those he had been accustomed to, and to resist a greater pressure. Suppose him required to go through a quickhead, to dam back-water, to fit up pumps, to determine the power and most advantageous means of applying machinery—all under circumstances beyond his experience; how, ignorant of principles, could such a man discharge his duty with advantage to his employer? He would guess his way, and his employer would suffer—though, chance, in happy ignorance. To prevent quibbling, I must observe, there is part of a miner's knowledge that is, and always must be, purely empirical; and the scholar would go to it with as blank a mind as the miner would go to obtain "scholastic knowledge;" but it is a species of knowledge a trained intellect would seize on in a very short time, and with every chance of making more of it than "Captain Empiric" would dream of.

I have done, as nearly as possible—too briefly, in fact, to do justice to my subject—advanced facts and reasons against bald assertions. I think them conclusive. Your pro-ignorance correspondents had better "show the cut" over them pretty well before they attempt to damage them. It is abominable, Sir, for men to pit ignorance against learning; it is encouraging the one, and depressing the other; it is endeavouring to throw the human mind back into the deep darkness it has emerged from. The man who throws the slightest impediment in the way of the advancing intellect of the age—be he prince or peasant—is a traitor and a curse to his kind. If, then, your correspondents feel aggrieved by any harsh expression I may have used, they must take the provocation for an apology. B. DURRAND.

Liverpool, May 13. ———

[ADVERTISEMENT.]

THE ANEMOMETER.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—Having perceived, in your *Journal* of the 13th inst., a person, of the name of James Welsh, claiming the invention of the anemometer, I have only to observe, that this claim was urged before the Coal Trade Committee of Newcastle, in opposition to the claims of my late brother, Thomas Elliot, but without success; and, further, that I, being a junior brother, was engaged for several months with my late brother in making experiments to form a data for the adjustment of that instrument; and the present "Sunday" sentiment of James Welsh, did construct the instrument, from plans given to my brother, out of some old cloth works, and, after experiments had been made by this plain and cheap mode of construction, it was sufficiently apparent that the instrument was correct in principle. All this was done before James Welsh was applied to, or knew of all of the proceedings. James Welsh being a clock and watchmaker or thereabouts by trade, was applied to by my late brother to make a more finished anemometer, or anemometer, for a certain sum of money—I believe the amount was 5*l.*—and, after the instrument was finished and after he had attempted to patent the invention before the Committee of the Coal Trade, my late brother paid him the amount agreed to be paid.

Mr. Editor, you are well aware how frequently this occurs in getting the mechanical part of an invention finished; that workmen, or mechanics, arm himself up against his employers, and claims the invention. I have been informed, as you may see, from the date of this, to apply to James Welsh; yet, on more mature reflection, I considered it was a duty I owed to my late brother and his family to plainly and confidentially contradict the statement put forth by James Welsh in your valuable *Journal* of the 13th inst.; and as I have neither time nor inclination to be before the public to dispute, and as what I have stated is true, and, therefore, quite sufficient to any man of sane mind, I will, therefore, take leave of this subject.

Belmont Cottage, May 16. GEO. ELLIOT.

IMPROVEMENT IN THE ANEMOMETER.—Mr. Follett Osler, at the meeting of the president of the Birmingham Philosophical Institution, described some improvements which he had made in the anemometer, with a view to render it more available for reading off the indications of the instrument, by which it was much better adapted for use in public institutions and commercial rooms. By the improvements introduced, merchants and others interested in the direction of the wind would be able to see at a glance, not only the course at the time of consulting the instrument, but also to ascertain the quarter of the compass from which it had been blowing for any previous period. Some improvements had also been introduced in the construction of the vane of the instrument, which rendered it less liable to oscillation, and facilitated with greater accuracy the true direction of the wind. There were other minor improvements described, tending to increase the value and utility of the instrument.

CURIOUS FACT.—For several days the Asiatics, well at Granville-lane Farmers, up small black fishes, which have no apparent eyes; this phenomena was observed last year at the same period. The Academy of Sciences have ordered a report to be made on that extraordinary fact.

PROCEEDINGS OF PUBLIC COMPANIES.

ST. JOHN DEL REY MINING COMPANY.

The annual general meeting of the proprietors in this undertaking was held at the offices, Tokenhouse-yard, on Friday, the 26th inst.

J. D. Powles, Esq., in the chair.

Mr. Kroon (the secretary) having read the advertisement convening the meeting, the Chairman read the directors'

REPORT.

It stated that, since the last annual general meeting of the proprietors, the directors have had the pleasure of issuing a circular, which informed the proprietors of the gradual monthly improvement in the returns, and that the profit from the 1st of January to August last, inclusive, was 66290*l.*, and that the directors had declared a dividend of 5s. per share, payable on the 1st of December last. The directors had to lay before the proprietors a detailed report of the company's proceedings during the past year. The monthly produce of gold, during the year 1842, had been as follows:

January	7914 oitavas	July	7456 oitavas
February	7610 —	August	7702 —
March	6987 —	September	7471 —
April	7710 —	October	8260 —
May	7930 —	November	8060 —
June	6717 —	December	7844 —

Making a total of 90,744 oitavas—(104 oitavas equal to 1 lb. troy);

The produce of 1841 was only 70,946 oitavas; showing an increase in the past year of 19,798 per cent. The ore stamped in 1841 was 21,615 tons, yielding 3·282 oitavas per ton; in 1842, 28,360 tons, yielding 3·199 oitavas per ton; showing an increase in the latter year, in the quantity stamped, of 31·2 per cent., and an improvement in its produce of ·083 oitavas per ton, or 16 per cent. This improved produce per ton of ore, the directors hoped, not only to find sustained, during the present year, but increased, in consequence of the plan adopted, of working the lodes considerably narrower than they had previously been, by which the extraction of large quantities of killas, along with the ore, would henceforth be avoided, and the quality of that which is submitted to the stamps be proportionably improved. The good effect of thus avoiding the mixture of killas with the ore extracted from the mine had been already evinced in the remarkable improvement of the produce since the commencement of the present year (when the new system was first put in practice), January having yielded 10,329 oitavas of gold from 2220 tons of ore, being 4·65 oitavas per ton; and February, 9347 oitavas from 1946 tons, being 4·8 oitavas per ton. In addition to the quantity of ore submitted to the stamps, in 1842, there were thrown aside 7549 tons of inferior quality, for want of stamping mills to reduce it. This ore was estimated to contain 1¼ oitava per ton, and would have added to the produce, if there had been the means of stamping it, 11,323 oitavas, or about 4200*l.*; so that the actual increase in the quantity of ore supplied by the mine in 1842, compared with 1841, was 48 per cent.

Considerable progress had been made, during the past year, in further opening out the Champion and Louisa Mines, and in getting the United Mines and the Gamba Mine into good stoping order—(the particulars of which have appeared in the agents' reports, which have been published in the *Mining Journal*.)

The attempt to effect a profitable treatment of the refuse sand, by means of the arrastre, which was advertised to in the report of 1841, has proved, for the present, a failure. In March, 1842, one arrastre was completed, and put to work, with the full intention, had it been found to answer, of constructing several more. But, after devoting many months to attentive and careful experiments with this machine, it was found impossible to pass through it more than half the quantity of sand which had been expected; and, as this did not offer so good a profit as could be obtained from additional stamps, the arrastre was given up in the early part of December last, and its thirty-foot wheel appropriated to the new twelve-head stamps, now in progress of being erected.

The number of negroes belonging to the company, on the 31st of December, was 411—viz., 266 males, 105 females, and 40 children—being very nearly the same number as at the close of the preceding year, when the total was 414. In the hired negroes, however, the manager has succeeded in obtaining a considerable increase; their number, at the end of 1841, being only 26; while, at the close of last year, they amounted to 84—showing an increase of 46; and the superintendent is assiduously endeavouring to still further increase this branch of his force, to enable him the more quickly to make progress with the important surface works now in hand.

The value of the company's negroes, animals, and stores at Morro Velho, on the 31st December last, was 208,791 milreis = 27,839*l.* sterling. The Morro Velho estate stands in the balance-sheet, it will be observed, at the same sum at which it stood in the balance-sheet of last year—viz., 97,000*l.* 9s. 7d. This sum consists of the value of negroes, stores, &c., just referred to 27,839

The remainder being the cost of the estate, and of the machinery, and of bringing the mines into working condition 74,829

Total £102,668

The directors trusted, looking to the return which the property was yielding, that it might be looked upon as an effective item for the amount at which it stood in the balance-sheet; and that, consequently, the amount of the capital stock—standing in the balance-sheet at 99,000*l.* 7s. 9d.—might be looked upon as entire.

In taking a view of the present position of this undertaking, it was satisfactory to see that the main point which had throughout been insisted on as the foundation of which its prosperity could alone rest—namely, the largely abundant supply of the mineral, was fully confirmed. All the superintendent's advices stated, as was also shown in his annual report, that the great difficulty he had to contend with was not the want of ore, but the want of stamping machinery to reduce it. The quantity of mining ground laid open was most extensive, and the characteristic features of the lodes appeared to be that of great abundance of ore—of moderate value—and subject to any great fluctuations in richness. The improvement in the produce, attributed to the lode being worked more free from the unproductive mass which surrounds it than formerly, whereby an unprofitable expenditure was avoided, and a better relative produce obtained. This was to be looked upon, therefore, rather as the result of improved management, than of any material variation in the richness of the ore.

The question of cost was one which occupied the continued attention of the directors and of the superintendent. The more extensive the development of the undertaking became, the more essential it was that every department and item of the expenditure should be most vigilantly watched. No mining undertaking can prosper, where a real economy did not pervade every part of the establishment, in the expenditure of time, labour, and materials. The directors must do the same. Independent the justice to say, that they believed he was fully impressed with this truth. Several economical reforms had lately been introduced at Morro Velho, and confirmed experience would, doubtless, from time to time, suggest more. The handling engine appeared to have effected a great saving in the cost of animals; the amount of expenditure under that head, in 1841, being only 1347 milreis, while, in 1842, it was 1·2 milreis. The price of provisions ruled high at Morro Velho in 1842, partly owing to the political disturbances, and partly to an unfavourable season. It was expected to be more moderate this year. The average of the monthly cost last year was 17·8/10 milreis. Mr. Herring expected this year to keep it within 14,000 milreis. On the whole, the directors believed that they might venture to look upon the present condition of the undertaking as very satisfactory. It appeared to be at length established on a firm basis. The ore, as had already been stated, existed in abundance; it was proved by experience to be capable of being economically raised and profitably reduced—the course of the lodes, and the best mode of opening them out and working them, having been ascertained by experience—machinery, to a certain extent of power, for treating the ores, had been completed—the water which was in progress—water, for keeping it in motion, was secured—and the directors were bound to express their conviction, that the management on the spot was vigorous and effective. Lastly, every month's working yielded a fair profit, and the proprietors might reasonably look for the continued payment of half-yearly dividends.

Statement of Receipts and Expenditure from May 13, 1842, to May 9, 1843.

	RECEIVED.				
Brought forward from last account—Balance of bankers		£	5103	6	2
" Cash in the office			94	14	6—5,198 4 7
" Proceeds of six shipments of gold from Rio Janeiro			90,531	4	0
Received for call (due the 4th November, 1841) on 100 shares			50	0	0
Received for interest			45	7	9
Balance received for account of proprietors of forfeited shares			7	0	5
Total			£96,402	15	11
	EXPENDITURE.				
Paid acceptances outstanding, as per balance sheet of May, 1842		£	5,100	0	0
Drafts of agents in Brazil			14,000	0	0
Salaries and wages in England, on account of parties in Brazil			1,000	0	0
Stores and parties sent to Brazil, insurances, &c.			3,183	19	10
Investment in Brocastello and Carlisle Railway debentures, at 5½ per cent. interest			4,000	0	0
First half yearly dividend, December 1, 1842			5,250	0	0
Salaries to directors, secretary, clerk, rent, office expenses, stationery, printing, advertisements, and incidental expenses			1,895	1	8
Balance at the bankers, Cr.			4,700	5	7
Total			£96,402	15	11

	Dr. Profit and Loss.			
1842—April 30	To expenses account	£	61	17	6
"	" First dividend		2,250	0	0
May	9— General expenses		1,017	1	10
"	" Balance to new account		9,189	19	9
Total		£	12,518	0	1
	Cr.				
1842—May	13— Balance of old account	£	1,277	14	11
1843—April	30— W. Harrison and Co. for difference of exchange		35	15	11
May	9— Interest account		29	9	9
	Morro Velho estate, for excess of receipts over expenditure, from 13th May, 1842, to this day		11,200	7	0
Total		£	12,518	0	1
1843—May	9— Balance from above	£	9,189	19	9

It was stated by the Chairman, that the gold in the Bank of England, which had been estimated at 740*l.*, was no more by quality, that it had realised 10*l.* more than that sum.—The directors' report was then unanimously adopted, and the dividend of 10s. per share declared payable on the 1st of June next.—In reply to a proprietor, if it was necessary to leave the certificates of shares at the office, previous to receiving the dividend?—the Chairman said they had wished to avoid such proceeding, but in consequence of there having been some shares forfeited (as the proprietors knew), it was necessary, for the security of the company, that they should be examined.—After some explanation by the Chairman, as to the accounts, which gave every satisfaction, a proprietor handed in a document, which was read by the Chairman. In it the writer stated, that, feeling for the comfort of the poor negroes, though he was quite aware that they were well fed and kept, still he suggested the paying them a small weekly or monthly allowance, to cheer them in their captivity.—The Chairman said, this was certainly a humane and kind suggestion, but he could assure the worthy proprietor, that, were he going to write respecting them, he should not call them *your* negroes. They were so well taken care of, not only as to food, but in case of sickness, that he believed them to be more happy than many of the working classes here; and Mr. Herring informed him, that after each holiday, which was Saturday, they generally amused themselves nearly all night in dancing, which, in some measure, showed their state of feeling, and they had some small allowances for every time, which found them in little additional comforts, such as tobacco, &c.—In reply to a question relative to education, the Chairman said they were instructed in their religious duties by the Romish priest of the parish, as the Government would not allow the introduction of any other religion. It was hopeless to attempt to teach the adult negroes to read and write, but some steps were being taken by Mr. Herring, which it was hoped would lead to a good system of education for the children, and place them in a better position than their parents.—Robert Harrison and John Routh, Esqs., as directors, and Sir Richard Dobson and Andrew Loughnan, Esq., as auditors, were unanimously re-elected; and thanks having been voted to the chairman and directors, the meeting broke up.

PORTH CAWL IRON AND COAL COMPANY.

The annual general meeting of the shareholders was held at the North and South American Coffee house, Threadneedle-street, on Thursday last, when the Chairman informed the meeting that, notwithstanding the depression in the iron trade, which had effected them as well as others, still they had, during the year, made considerable progress. In consequence of the discovery of the black-band ironstone upon an adjoining property, they had been in treaty for it, and had now the option of purchasing within a given period. The management strongly recommended this step, as by it, and the putting another furnace into blast, they should be in a situation to compete with the Scotch as to price, and with a much superior iron; 4000*l.* would be amply sufficient for these purposes. Another great object which the management recommended to the proprietors, was the entering into an arrangement with the patentee of the new process of zincing iron,—a process which had now been in use in France five years; and its prevention of the oxidation of iron for sheathing and fitting ships, and it was recommended by our first chemists for the purpose of roofing houses, balustrades, hinges, bolts, &c., &c. —A negotiation had been going on between the board at Paris and parties in this country, for the purchase of the exclusive right to work the patent in England, and, for this purpose, it was proposed to form a new company, by the conversion of the shares of the Porth Cawl Company, the assignment of a certain number of these shares to the patentee, and an issue of new shares to enlarge the power of the company to carry out their new operations. The rate at which sheet iron can be produced was so low, in comparison with copper, that a large profit must arise, and he believed that the accession to the company's resources, of the black-band and the zincing process, would establish it on a profitable, firm, and lasting basis; if the shareholders did not consent, the managers were prepared to adopt it themselves. He mentioned the fact of the Maesteg Iron-Works having, for many months, been in the market, when any sum above their liabilities would have been accepted, but having found the black-band on the property, they could not now be purchased for 60,000*l.*—The several motions for carrying out these proposals were then adopted with acclamation, and it is believed the new shares are nearly all appropriated, and that very few, if any, will come before the public.

LISBURNE MINES COMPANY.

At the annual general meeting of the adventurers, held at the offices, Mr. Spooner in the chair, the minutes of the last meeting having been read, Mr. Taylor's report of the present state and future prospects of the mine was submitted, from which it appeared that the expectations held out in the former report had been generally borne out, both as to underground works and returns; several important additions to the company's property had been acquired, particularly two pieces of land which intersected the sett, and involved the right of the company to a water course, indispensable for carrying them to the danger of interruption. The general appearance of Log-y-lus on the works, and which, while in the tenancy of other persons, subjected and Fron-goch mines was cheering, and, without some sudden and quite unexpected failure of the ore takes place, might be reckoned to produce large returns for some years to come. At Log-y-las the adit (sixty fathom) had been driven sixteen fathoms west and eastward, upon a north lode, twenty-one fathoms, passing in both directions through good ore-ground. Worsley's shaft was sunk sixteen fathoms below the seventy-four fathom level, and the ninety fathom level extended twenty fathoms from it westward; the ore ground above the back of the forty-four fathom level had furnished a considerable part of the returns for several years' past, but, as the lode diminishes in size towards surface, much more ore from that part of the mine must not be depended on. The quantity of ore broken monthly averages about 110 tons per month; and had it not been for a depressed price of produce, the profits would have been handsome. At Fron-goch mine, at the forty-four fathom level, the lode, for twenty-one fathoms, had been proved to be large, and as rich as the upper levels, yielding three tons per fathom, of good quality. At Graig-goch thirty fathoms were required to drive at the deep adit to reach a run of productive ground, and in twelve months returns might be expected. The following are the costs and returns:—

Date. 1842.	Lead ores. Tons cwt.	£	s.	d.	Costs. £	s.	d.	Profit. £	s.	d.	Loss. £	s.	d.
January and February	330 15				2079	17	1				335	10	8
March and April	294 6				2011	4	3				104	6	6
May and June	330 7				2014	15	7				240	16	6
July and August	328 7				2067	0	7	407	3	3			
September and October	196 14				1698	11	7				209	4	7
November and December	267 18				1734	15	6	323	0	10			
	1647 7				11604	5	9	1084	5	6	889	9	1
Net profit								£197	16	74			

The report and accounts were adopted, and ordered to be circulated among the proprietors.—Thanks were voted to the chairman and the meeting separated.

VENTILATION OF MINES—THE COLLIERS' PETITION.

A petition from the pitmen of the Tyne, the Wear, and the Tees, to the House of Commons on the subject of ventilation was agreed to at a meeting held for the purpose, on Saturday week, on Black Fell, at which not less than 15,000 were present, Mr. A. Fleming in the chair. The petition states that, within the last twenty years, upwards of 700 pitmen, the friends and companions of the petitioners, have been miserably destroyed in the Durham and Northumberland Mines, by explosions of inflammable gas, and others met the most fearful deaths from various other causes; that these explosions have always been traced to the want of sufficient ventilation, permitting the accumulation of the gas in such manner that, when set fire to, it explodes with sufficient force sometimes to blow men through a shaft 600 feet deep, as if from the mouth of a cannon, and shake the solid ground similar to an earthquake; that while miners are allowed to be worked with a single pit *bratticed*, the lives of the men are in daily imminent danger, from the incapacity of one shaft to supply a sufficiency of air through sixty or seventy miles of passages, extending under sometimes as much as 500 acres of ground; that the only mode of working the mines with security, would be by sinking two shafts at the "winning," and as the works extend, making additional shafts, the mine would then be thoroughly ventilated, the coal more easily worked, and the petitioners secured from those terrible accidents. That knowing the Davy lamp is liable to fire an explosive mixture under certain circumstances, they cannot rest satisfied with their lives being secured by an imperfect instrument easily deranged, and which, at the moment of greatest danger, brings on the calamity it is intended to prevent, and on the protracted safety of which has been based the modern practice of carrying fatal underground workings to a most dangerous extent. They respectfully suggest that the direction of mines should be intrusted only to viewers and underviewers properly educated and sufficiently experienced, and that inspectors of mines under the Government should be appointed, the adoption of which suggestions would not only tend to prevent the dreadful calamities now so frequent, but secure the better and economical working of the mines. It concludes, by praying the appointment of a select committee on the subject.

Improvement to Wells Dockyard.—In the Court of Exchequer Chamber in Exeter, on Wednesday week, a judgment of considerable importance was pronounced by Lord Chief Justice Tindal, in the case of "Acton v. Blundell." Within twenty years before the commencement of the action, the plaintiff had sunk a well, and the water which it collected was sufficient to work his mill; but in 1837, the defendant dug a coal-pit three-quarters of a mile distant, which, eventually, drained the well dry, and, therefore, as notice was lodged to answer compensation. On the trial, the judge told the jury that if the defendant had dug the pit in the manner which was usual in working and winding a mine, he was justified by law in what he had done; and the jury found for the defendant. A bill of exceptions to this charge was presented, which had, subsequently, been argued, but the Court now decided that the ruling was correct. The Court were of opinion that the case should be decided on the principle of the rule which gave to the owner of the soil everything under the surface of it; and that if the plaintiff had suffered loss by the exercise of the defendant's right, it was a loss which was damnum sine injuriâ, and for which no action could be maintained. The Court, therefore, unanimously gave judgment for the defendant.

MINING CORRESPONDENCE.

ENGLISH MINES.

BOTALLACK MINING COMPANY.

Account held on the mine the 16th May, 1843, for January and February.

Dr.— Wages	£1243	19	4		
Merchants' accounts, &c.	711	19	0—£1955	18	6
Cr.— Balance in hand	£281	10	11		
Copper sold	0640	17	1		
Sundries	29	0	0—£1162	14	6

Deducting Lords' dues, 346*l.* 3s. 10*d.*, there is a total of 67*l.* 4s. 2*d.*; thus leaving an available balance of 483*l.* 6s. 2*d.* Dividend on 140 shares, at 40*l.* per share, 4800*l.*; balance in purser's hands, 683*l.* 6s. 2*d.*

HOLMBUSH MINING COMPANY.

May 22.—In the 110 fathom level, west of Wall's shaft, the lode is ten inches wide, and worth 16*l.* per fathom. In the 100 fathom level west the lode is twenty inches wide, and worth 32*l.* per fathom; in the winze sinking below this level the lode is fourteen inches wide, and worth 20*l.* per fathom; in the cross-cut, south of Wall's shaft, towards the Flapjack lode, the ground is hard for driving. In the 100 fathom level, east of Hitchins's shaft, no alteration since last reported; the lode in the stopes, in the back of this level, is one foot wide, and worth 20*l.* per fathom. In the ninety fathom level, west of Hitchins's shaft, the lode is six inches wide, producing a little ore; in the eastern stopes, in the back of this level, the lode is twenty inches wide, and worth 40*l.* per fathom; in the middle stopes the lode is eighteen inches wide, and worth 40*l.* per fathom; and in the western stopes the lode is eighteen inches wide, and worth 40*l.* per fathom. In the eighty fathom level, west of Hitchins's shaft, the lode is one foot wide, producing good stones of ore; at this level, east of Wall's shaft, the lode is without alteration; the north lode, at this level, is twenty inches wide, composed of capel, spar, and mundic; the lode in the stopes, in the back of this level, is one foot wide, and worth 18*l.* per fathom. In the deep adit level, east of Lady Beam shaft, there is no alteration since last reported.

T. Richards.

TREGULLAN MINING COMPANY.

May 22.—The leader part of the lode, in the sixty-two fathom level, east of Baker's shaft, is one foot wide, producing some ore, much the same as last week. There is very little alteration in the tribute department since last reported.

H. Williams.

CONSOLIDATED TRETOIL MINING COMPANY.

May 22.—The lode in the fifty fathom level, west of Henwood's shaft, is fifteen inches wide, unproductive. The lode in the fifty fathom level, east of Henwood's shaft, is twenty inches wide, tribute ground. The lode in the forty fathom level, east of Henwood's shaft, is twenty inches wide, very good tribute ground.

H. Williams. J. Morcom.

UNITED HILLS MINING COMPANY.

May 23.—In the seventy fathom level, in the eastern end, the lode is four and a half feet wide, three feet on the north part ore of fair quality; in the western end the lode is four feet wide, producing some good stones of ore; rather improved since last week. In the sixty fathom level, in the eastern end, the lode is three and a half feet wide, producing but little ore; in the western end the lode is five feet wide, eighteen inches on the north part good ore. No lode has been broken in the diagonal shaft for the past week. In Webber's winze the lode is three and a half feet wide, two feet on the north part ore of average quality. In the fifty fathom level the lode is three and a half feet wide, eighteen inches ore of good quality. In sinking the winze below this level the lode is three feet wide, good ore. In Jaure's shaft the lode is four feet wide, grey throughout, but not rich; this shaft is now sunk to the sixty fathom level, and we have this day put the men to drive east. In the forty fathom level the lode is eighteen inches wide, six inches in the middle part good ore. In Wheal Sparrow (Hill shaft) the lode is two feet wide, with stones of ore. In the twenty fathom level the lode is two and a half feet wide, grey throughout, but of low quality.

N. Lawdon. S. H. Pearce.

CORNUBIAN MINING COMPANY.

May 22.—The lode in the seventy fathom level is about two feet wide, composed of soft white spar, mundic, &c. The sixty end men have just now completed the whim-plat, and will now commence to drive the sixty fathom level, west of Murray's shaft, on the lode. We are continuing to drive north at the sixty fathom level, and are persuaded there remains another part of the lode to cut. Murray's shaftmen are engaged in doing sundry work in Murray's engine-shaft; here we have seventy-four fathoms of connecting-rods to fix, divide and case off from the whim part of the shaft, four way to put in, &c.; we hope to perform this, with various other jobs, and get new engine to work in about a fortnight. We have cheering prospects in the tribute department generally. We sampled on Thursday last forty-eight tons of silver-lead ore of excellent quality; fixing day of sale with you on the 27th inst. J. Webb.

CALLINGTON MINING COMPANY.

May 22.—Since my report of the 15th inst., we have completed the fixing of the new forty fathom plunger lift, and have the satisfaction of saying it answers well, but, while performing this work, the water rose considerably above the forty fathom; however, it was soon drained again to that level. We are now engaged in cutting hitches, fixing bearers, &c., for dropping to the fifty fathom level, which we expect to do in a day or two, and, should our operations continue to go on favourable as hitherto, we anticipate seeing the bottom at the sixty fathom level by the close of the present month, or early part of the ensuing. The masonry of the boiler-house, stack, &c., is also commenced for the steam-whim; we hope also, in course of the present week, to set about putting the engine together. The Herdtown south adit level is progressing through favourable ground.

S. Harvey.

WEST WHEAL JEWEL MINING ASSOCIATION.

May 22.—At the eighty-five cross-cut we are daily expecting to intersect Wheal Jewel lode in this level. At the seventy fathom level east, on the south branch, the lode is worth 5*l.* per fathom—ground still favourable for driving; ditto west, on Wheal Jewel lode, is worth 20*l.* per fathom; ditto east, on the same lode, not taken down since our last—was then worth 10*l.* per fathom. The fifty-seven east, on the same lode, is worth 8*l.* per fathom. The thirty east, on Buckingham's lode, is worth 8*l.* per fathom. No lodes taken down in any of the Wheal Jewel lode, is worth 10*l.* per fathom. No lodes taken down in any other part of the mine.

R. Lean. R. Johns.

TRELEIGH CONSOLS MINING COMPANY.

May 22.—At the eighty, east of Christoe, the lode is one and a half feet wide—more kindly than it has been. At the seventy west the lode is fifteen inches wide—poor. At the sixty cost the lode is four to five feet wide, producing good stones of ore—this level is looking very kindly. At the fifty cost the winze is sinking below this level; lode four feet wide—worth 10*l.* per fathom. The forty cost, in the rise, is one foot wide—worth 4*l.* At the sixty, west of Gordon's shaft, in the rise, the lode is four feet wide—worth 8*l.* At the fifty west the lode is two feet wide—more promising. At Great Fortune the fifty cross-cut commenced yesterday; ditto, east of ditto, the lode is two and a half feet wide—worth 4*l.* At the forty west the lode is three feet wide—worth 5*l.* At the thirty-four west the lode is three feet wide—worth 5*l.*; this level is looking very kindly.

W. Symons.

MINE ACCIDENTS.

Coal's Kitchen.—An accident occurred here to Samuel Capel; while at his work underground he fell from the twenty-nine to the sixty fathom level, whereby he received severe injuries on his head, and instantly expired.

Old Road, Rowley Moor, near Sunderland.—A fatal accident occurred here to a young man a few days since.

MR. FOURNESS'S PLAN OF VENTILATING COAL MINES.

Mr. W. Fourness, of Leeds, has addressed a letter to the *Gateshead Observer*, on the subject of the "Pitmens' Petition" (noticed in another place), giving an account of some of the effects produced by the experimental machine which he has invented for the purpose of forcing a current of air through the workings—see *Mining Journal* of 13th instant. In this communication, Mr. Fourness says, the plan of his apparatus is such, that if the distance the air had to course was five miles, instead of sixty or seventy, it is compelled to pass. In a pit with four and a half inches of windcaul, in which the coal had been on fire from explosions, and had been laid off for eighteen months, as soon as the machine was put to work, the inside were cleared of smoke, sulphur, and other obnoxious gases, which had been wafted in for that time, and in the more confounded parts, where the water had to the bottom, the force of the wind drove the water from its resting place. Through a 5-foot aperture it exhausted 240 cubic yards per minute, which is more air than can be caused to the united power of the two largest furnaces in the north, and, when the communications were opened with the coppice furnace, the last ordinary, the men remained a place to the mine which had never been free from carbonated hydrogen; they went to it, and, while the machine worked, it was quite free from it; and healthy. From the repetitions of these disastrous explosions, and from the apathy shown by the owners of coal-pits to the adoption of any measures for the comfort and security of the colliers, it is high time that the question was taken up by the legislature; and there can be no doubt, on the appointment of a select committee, composed of men of business and some scientific attainments, that plans for perfect ventilation, and more security and economically working our collieries, would be laid before them, which would enable them to lay the foundations of investments, which would not only secure the health and lives of the workmen, but add to the value of the property of the owners themselves.

The Iron Trade.—We hear that several large iron works in Staffordshire have stopped working, and a great number of hands are, consequently, thrown out of employment. The inhabitants of Dudley, Tipton, and the vicinity in that direction, are under serious apprehensions for the climate.

CURRENT PRICES OF STOCKS AND SHARES.

STOCK EXCHANGE, Saturday morning, Twelve o'clock.

Consols Money, 90⅞ ⅝
Ditto Account, 90⅞ ⅝
New 3½ per Cents., 102½ ⅝
Reduced 3 per Cents., 90 ⅝
Reduced 3½ per Cents., 101½ ⅝
Long Annuities, 12 5-16 ⅝
Bank Stock, 190 ⅞
Exchequer Bills, 50 5 pm.
Belgian Bonds, 5 per Cts., 103 ⅝
Brazil, 5 per Cent., 72 ⅝
Danish, 3 per Cent., 85 7
Dutch, 2½ per Cent., 64⅝ 7⅛
Ditto, 5 per Cent., 100 ⅝
Portuguese, 5 per Cent., 40⅞ ⅛
Russian, 5 per Cent., 113½ 14
Spanish, Active, 5 per Cent., 20⅝ 31
Ditto, 5 per Cent., 20⅝ ⅝
Chili, 6 per Cent., 97 94
Colombian, 6 per Cent., 24 ⅝
Mexican, 5 per Cent., 29½ ⅝

BANK OF ENGLAND—*Quarterly Average of the Weekly Liabilities and Assets from the 25th of February, 1843, to the 20th of May, 1843, both inclusive :—*

LIABILITIES.		ASSETS.	
Circulation	£19,513,000	Securities	£20,848,000
Deposits	11,154,000	Bullion	11,391,000
	£31,667,000		£32,287,000

Downing-street, May 26.

The premium on gold at Paris is 11 per mille, which, at the English Mint price of 3*l.* 17*s.* 10½*d.* per ounce for standard gold, gives an exchange of 25 40, and the exchange at Paris on London at short being 25 72½, it follows that gold is 0·28 per cent. dearer in London than in Paris.

By advices from Hamburgh the price of gold is 437½ per mark, which, at the English Mint price of 3*l.* 17*s.* 10½*d.* per ounce for standard gold, gives an exchange of 13 11½, and the exchange at Hamburgh on London at short being 13 12½, it follows that gold is 0·91 per cent. dearer in London than in Hamburgh.

The course of exchange at New York on London is 107 per cent., and the par of exchange between England and America being 108 33·40 per cent., it follows that the exchange is 2·57 per cent. against England. But the quoted exchange at New York being for bills at 60 days' sight, the interest must be deducted from the above difference.

[From our own correspondents.]

LATEST PRICES OF IRISH STOCKS.—3 per Cent. Consols, 94½ 95; 3½ Stock, 100½; ditto New, 100, 100½; 5½ per Cent. Debentures, 93½; Bank Stock, 193½.—Kingstown Railway, 15½; Dublin and Drogheda, 30.—Hibernian Bank, 20½.; Royal Bank, 19½; Provincial Bank, 40.—City of Dublin Steam Co., 95; ditto Stock, 100, 102.—Steam Ship Building Company, 22; British and Irish ditto, 5½.—National Insurance Company, 10½; Patriotic, 7½.—Mining Company of Ireland, 12½; Wicklow Copper Mines, 12½.

LEEDS, THURSDAY.—The railway share market has not met with any movement upwards since our last report, but has rather had a downward tendency. Manchester and Leeds, North Midlands, and Midland Counties, may all be considered firm at our quotations; for Leeds and Selbys there has been good demand at 119½; for 118½ per share, but Hull and Selbys are flat at 106; Sheffield and Rotherhams are in some request, at about 77½; but York and North Midlands are not sought after at 20½; Great North of Englands have been sold at 64½; and Edinburgh and Glasgows at 49½. We hand you the annexed as the latest quotations:—North Midland, 106; York & N. Midland, 20½; Leeds and Selby, 119½; Hull and Selby, 89½; Gt. North of England, 64½; Manchester and Leeds, 90½; Sheffield and Rotherham, 77½; Edinburgh and Glasgow, 49½; Bristol and Exeter, 134½; Cheltenham and Great Western, 90; Northern and Eastern, 23½.—Leeds Banking Company, 13*l.*; Leeds and West Riding, 8; Leeds Commercial, 22½; Yorkshire District, 45.—Leeds and Liverpool Canal, 630; Huddersfield, 16; Barnsdale, 6·4.—Leeds and Yorkshire Assurance Company, 15*l.*—Leeds Old Gas Company, 73½; Leeds New Gas Company, 57½.—Leeds Commercial Buildings, 2½.

R. B. & W. WATSON & CO.

HULL, TUESDAY.—The share market evinces considerable firmness, for, although it slightly sympathises with the fall in Consols, this latter circumstance has rather the effect of preventing an advance than causing a decline.—The Birmingham & Derby, 46½ to 45½; Edinburgh and Glasgow, 49½ to 49¾; Great North of England, 64½; Hull and Selby, 89½ to 90; Leeds and Selby, 119½ to 119½; London and Birmingham, 211½; Liverpool and Manchester, 205½ to 207½; London and Brighton, 56¾; Manchester and Leeds, 79½ to 81½; Midland Counties, 42½; Newcastle and Carlisle, 46½; Northern and Eastern, 24½; North Midland, 82½; South Eastern, 34½; York and North Midland, 20½.—Yorkshire District Bank, 45 to 47½; Hull Banking Company, 85 to 75.—Hull Dock Company, 124½; Hull Gas, 23½; Hull Flax and Cotton Mills, 106½ to 108½; Hull Marine Insurance, —½.

GLASGOW, THURSDAY.—Ballochney Railway, 73½; Dundee and Arbroath, 20½; Edinburgh and Glasgow, 49¾; Garnkirk and Glasgow, 30½; Glasgow and Greenock, 18½; Glasgow, Paisley, Kilmarnock, and Ayr, 35½; Monkland and Kirkintilloch, 23½; Slamannan, 20½; Wishaw & Coltness, 45½.—Forth and Clyde Canal, 125½.—Bank of Scotland, 170½; Royal, 167½; British Linen Company, 21½; Commercial, 17½; Glasgow Union, 8½.—North British Fire and Life Insurance, 20½; Caledonian Fire and Life, 2½; Scottish Marine, 1½.—Royal Exchange, 6½.—Old Clyde Shipping Company, 30.—Shotts Iron Company, 26½.—A general failure has prevailed in the money market during the last few days, and prices of stocks and shares have almost all declined. Various reasons are assigned for this—viz., the disappointment experienced by capitalists, when the state of the finances of the country and the measures intended to be pursued by Government in regard to them, were made known—the withdrawal of money for commercial purposes, and the Repeal agitation in Ireland. To these must be added, the unsettled state of our commercial treaties with other countries, all of which have contributed, more or less, to depress the market. The accounts, however, from the manufacturing districts continue satisfactory, and money is still abundant.—The transactions in Bank shares, during the month, have been very limited, and prices are nearly the same as when last quoted.—The stock of insurance companies has supported its value, and a few sales have been effected.—The shares of the mineral railways have been neglected, and prices continue nearly the same as last month; Edinburgh and Glasgow, and Ayrshire Railway stock, have been in fair demand at the quotations. A further decline has taken place in the stock of the Forth and Clyde Canal, which sells slowly at 126*l.* at 40.—Glasgow water stock has changed hands to some extent at 90*l.*—The bill for the New Gas Company having passed the Commons, there seems to be little doubt that the Act for incorporating the company will now be obtained. The shares have been dealt in to some extent, and prices are from 47 10*s.* 0*d.* to 50*s.* 0*d.*

LIVERPOOL, FRIDAY.—Chester and Birkenhead Railway, 19½; Eastern Counties, 9½; Edinburgh and Glasgow, 49½; Grand Junction, 100½; Great Western, 91½; Great North of England, 64½; Lancaster and Preston, 23½; Liverpool and Manchester, 206½; London and Birmingham, 210½; London and South Western, 64½; London and Brighton, 56½; Manchester, Bolton, and Bury, 16½; Manchester and Birmingham, 39½; Manchester and Leeds, 80½; Midland Counties, 42½; North Eastern, 24½; York and North Midland, 20½; North Union, 75½; Paris and Rouen, 47½; South Eastern, 34½; York and North Midland, 20½.—Borough Bank, 12½; Bank of Liverpool, 214½; Commercial, 16½; Liverpool Banking Company, 35½; Manchester and Liverpool District, 20½; North and South Wales, 9½; Royal, 69½; Union, 14½.—Fire and Life Assurance, 32½; Marine Assurance, 6½.—Australian Carrying Company, 6½.—Polynesian's Steamer Company, 5½.—Gas Light Company, 20½; New Gas and Coke Company, 6½.—Harrington Dock, 74½.—South Wales Works, 46½; Liverpool and Harrington Water Works, 63½. [These sales have produced little variation in the prices of the previous month; there has been a small advance in Manchester and Leeds, Midland Counties, Bank of Liverpool, Apothecaries, Steam Tug, and Liverpool and Harrington Water Works. There is a decline in the Eastern Counties, Great Western, and South Eastern, Railways. Business in shares continues moderate, capital being in increasing demand for trading and commercial purposes, which presents favourable results, with a confirmance of the present low prices of provisions; the low rate of interest causes prices of shares generally to be well maintained, particularly where a revival in trade would materially increase the profits and dividends. With the exception of those railways which have cornected their lines, the average traffic does not generally exceed that of the corresponding period last year.

BRISTOL, FRIDAY.—Our market has improved since my last, and better prices obtained. The following are our quotations, closing with a firm market:—Great Western Railway, 91½ to 91¾; ditto, New, 87½; ditto, ditto, 77½ to 77¾; Bristol and Exeter, 134½ to 134¾; Bristol and Gloucester, 53½ to 55½; Birmingham and Gloucester, 124½ to 125; Birmingham and Derby, 46½ to 47½; Birmingham and Liverpool Junction, 84½ to 85½; Birmingham and Derby, 46½ to 47½; Cheltenham Union, 19½ to 20½; London and Brighton, 56½ to 56¾; Eastern Counties, 9½ to 9¾; Taff Vale, 20½ to 21½.—Bristol Gas Company, 57½ to 59½; Clifton, 24½ to 25½.

BIRMINGHAM, FRIDAY.—London and Birmingham Railway, 210½ to 210½; London and Brighton, 56¾ to 57; London and South Western, 64 to 64¼; Great Western, 91½ to 91¾; Birmingham and Derby, 47; Birmingham and Gloucester, 125 to 126; Manchester and Leeds, 79½ to 80; Edinburgh and Glasgow, 49½ to 49¾; Birmingham Canal, 230; Birmingham and Liverpool Junction, 85½; Dudley, 21½; Birmingham Canal, 230; Birmingham and Worcester, 53½ to 54½; Birmingham Wednesbury, 52½; Birmingham and Staffordshire, 79½ to 80½; Gas Union, 10½, 12½; New Hope, 4½.

COAL MARKET, LONDON.

MONDAY.—Prices of coals per ton at the close of the market.—Adair's Main 15.—Clark's Hartley 15 6.—Harrison's Wear Hartley 15 6.—Fenham 15.—Hayward's Main 15 6.—Hedley's Main 15 6.—Holmes's Wear Hartley 15 6.—Hunt's Redheugh 15.—Pontop Wallsend 15 6.—Ravensworth's West Hartley 15 6.—Swansea 15 6.—Tanfield Moor 15 6.—Taylor's West Hartley 15 6.—West Hartley 15.—West Wylam 15.—Wylam 15 6.—Wylam Main 15 6.—Wylam Wallsend 15 6.—Northumberland 14 6.—Wharncliffe 14 6.—Wharncliffe Main 14 6.—Harvest 14.—Hutton 13 6.—Lambton 13 6.—Marlton 17.—North Hetton Lyon's 17.—Pemberton 16 6.—Seaham's 16 6.—Whitwell 16.—Cassop 16.—Hetton 17.—Hetton Wallsend 17 6.—Hough Hall 16.—Stanley 16.—Eldon 16.—Brown's Primrose 16 6.—Hedgefield Vein 16.—Parson's Silver Crescent 16.—Powell's Duffryn Steam 20.—Stanley's Hartley 16.—Pascoe 16.—Killingworth 17 6.—Ships arrived, 18.

WEDNESDAY.—Adair's Main 15 6.—Buddle's West Hartley 15 6.—Pemberton 15.—Hedley's Hartley 15 6.—Hedley's West 15.—Harrison's Wear Hartley 15 6.—Hutton's Main 15.—Hutton's West Hartley 15.—Clark's Hartleyagh 15.—Pontop Wallsend 15 6.—Pyrenees 15 6.—Tanfield Moor 15.—Taylor's West Hartley 15.—West Hartley 15.—Wylam 15.—Wylam's Wallsend 15.—Wylam's West Hartley 15.—Wylam Gas Chark and Co. 15.—Hetton 15.—Hetton Wallsend 15 6.—Hetton's Lyons 17.—Hetton's Wallsend 17.—Hetton's Hartley 16.—Hetton's Primrose 16 6.—Hetton's Silver Crescent 16.—Hetton's Wallsend 16